FLAT RESPONSE TUNING SYSTEM
STEREO CASSETTE DECK

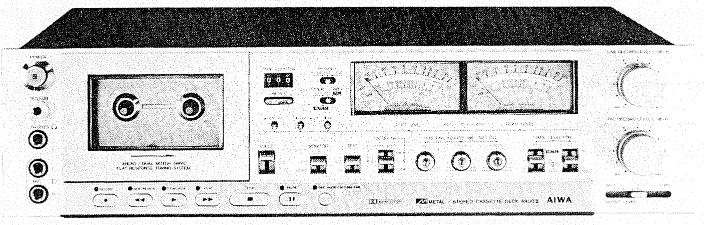
199

MODEL NO. AD-6900MKII H,U,E,K

AIWA®

[SERVICE MANUAL]

Code No. 04-690-000-54



Shown above is AD-6900MKII,H

DATE OF ISSUE 7/1979

SPECIFICATIONS

Semiconductors:	20 IC's, 90 transistors, 78 diodes, 10 FET's 6 LED's & 1 PIN diode
Power source:	AC 110V/120V/220V/240V (H model) AC 110~120V/220V240V (E model) AC 120V/240V (K model) (switchable) 50/60 Hz AC 120V, 60 Hz (U model)
Power consumption:	26W
Dimensions:	450(W) x 120(H) x 327(D) mm [17-3/4''(W) x 4-3/4''(H) x 12-7/8''(D)]
Weight:	9.5 kg [20.9 lbs.]
Track system:	4-track 2-channel stereo
Tape speed:	4.8 cm/sec. ± 0.5%
Wow & flutter:	Less than 0.04% (WRMS) at Pb
Automatic stop system:	Full auto-stop
Automatic shut-off action time:	2 ± 0.5 s.
Pinch roller pressure:	450 ± 40 g (4.41 ± 0.39N)
Take-up torque:	50 ± 10 g-cm (490 ± 98m N·m)
FF & rewind torque:	155 ± 25 g-cm (1519 ± 245m N·m)
FF & rewind time:	65 ± 5 s. (w/c-60 cassette)
Playback output: (TTA-161)	0.58 ± 0.06 V (LINE)
Playback noise: (Un-Weighted)	Less than 3.5 mV (LH, DOLBY OFF) Less than 1.0 mV (Fe-Cr, CrO_2, METAL, DOLBY ON)
Rec./Pb output: (400 Hz 0 VU)	0 VU ± 1.0 dB (LINE)
Rec./Pb distortion: (400 Hz 0 VU)	Less than 1.5% (LH, CrO_2) Less than 1.0% (Fe-Cr, METAL)
Rec./Pb S/N: (400 Hz 0 VU) (Un-Weighted)	More than 40/45 dB (LH, DOLBY OFF/ON) More than 43/46 dB (Fe-Cr, CrO_2, METAL, DOLBY OFF/ON)
Channel separation: (1 kHz 0 VU)	More than 30 dB
Cross talk: (1 kHz 0 VU)	More than 60 dB
Erasing ratio: (400 Hz 0 VU +10 dB)	More than 60 dB
VU meter display error: (0 VU)	0 VU ± 0.5 dB
Peak meter display error:	(0 VU +7 dB) +7 dB ±1 dB (0 VU –10 db) –10 dB ±1 dB (0 VU –20 dB) –20 dB ±2 dB
Bias frequency:	105 kHz
Frequency response:	LH tape, 20~16,000 Hz 25~14,000 Hz ($^{+2}_{-3}$ dB) Fe-Cr tape, 20~20,000 Hz 25~18,000 Hz ($^{+2}_{-3}$ dB) CrO_2 tape, 20~19,000 Hz 25~17,000 Hz ($^{+2}_{-3}$ dB) METAL tape, 20~20,000 Hz 25~18,000 Hz ($^{+2}_{-3}$ dB)
Motor:	38 pulse FG servo motor (for capstan) DC servo motor
Head:	V-cut conbination ferrite head (for Rec./Pb) Double cap ferrite head (for Erasure)
Input:	MIC; Max. input sensitivity 0.25 mV (200 Ω~10 kΩ suitable) LINE IN; Max. input sensitivity 75 mV (More than 50 kΩ) DIN; Max. input sensitivity 0.25 mV (50 kΩ) (H,E,K model)
Output:	LINE OUT; Standard output level 0.41V (0 VU) Optimum load impedance More than 50 kΩ DIN; Standard output level 0.41 V (0 VU) Optimum load impedance More than 50 kΩ (H,E,K model) PHONES; 8 Ω~150 Ω

Remote control unit specifications

Number of channels	7
Clock frequency	40 kHz ±1%
Power requirements	4.5V UM-3 (size 'AA') x 3
Current consumption	500 mA (when transmitting) 5 µA (during shutdown) under normal conditions)
Transmission directivity	About ±45°
Coverage range	About 8 meters
Semiconductors used	2 ICs, 5 transistors, 1 diodes, 2 LEDs
Usable temperature range	+0°C to +35°C
Dimensions	50 (W) x 25 (H) x 150 (D) mm 2''(W) x 1''(H) x 5-15/16''(D)
Weight	163g 0.36 lbs

- Specifications and external appearance are subject to change without notice due to product improvement.
- Dolby Noise Reduction System is licensed from Dolby Laboratories Incorporated.
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199

DISASSEMBLY INSTRUCTIONS

1. To Remove Cassette Lid, Blinder and Cassette Plate

1) Remove the cassette lid.
2) Remove the blinder.
3) Remove 2 screws, securing the cassette plate in place. (Refer to Fig. 1)

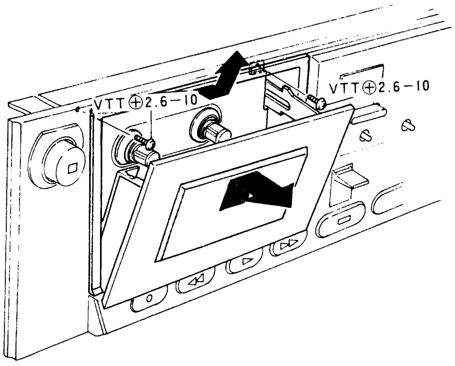

VTT⊕2.6−10
VTT⊕2.6−10

Fig. 1

2. To Remove Front Panel

1) Remove the connector.
2) Pull out the 13 knobs.
3) Remove 6 screws. (Refer to Fig. 2)

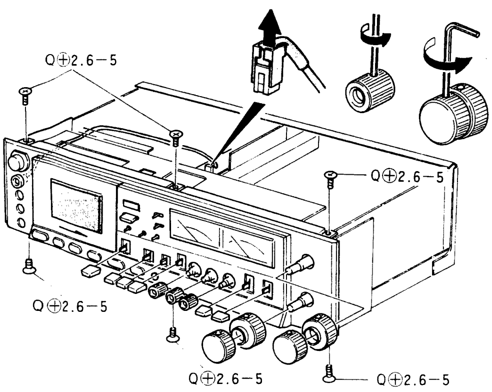

Q⊕2.6−5
Q⊕2.6−5
Q⊕2.6−5
Q⊕2.6−5
Q⊕2.6−5

Fig. 2

3. To Remove Mechanism

1) Remove 2 screws, securing the player shync circuit board in place.
2) Remove 4 screws, securing the power transformer in place.
3) Remove 2 screws, securing the power switch holder in place.
4) Remove the counter belt and main belt.
5) Remove the rod stoppers and take out the selector rods. (Refer to Fig. 3)

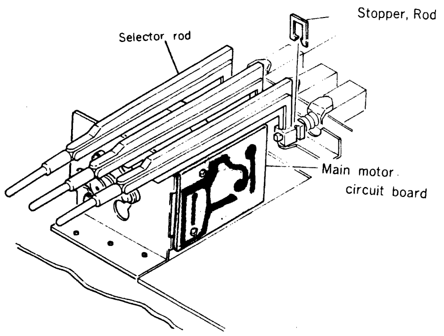

Stopper, Rod
Selector rod
Main motor circuit board

Fig. 3

6) Remove10screws. (Refer to Fig. 4 and Fig. 5)

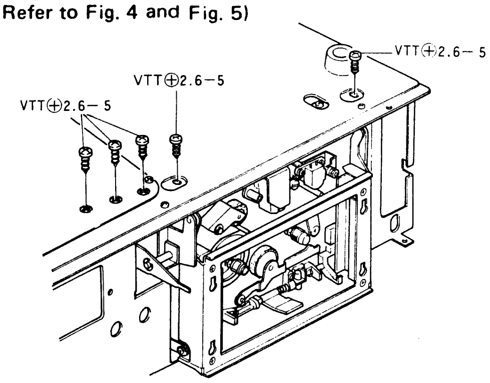

VTT⊕2.6− 5
VTT⊕2.6−5
VTT⊕2.6− 5

Fig. 4

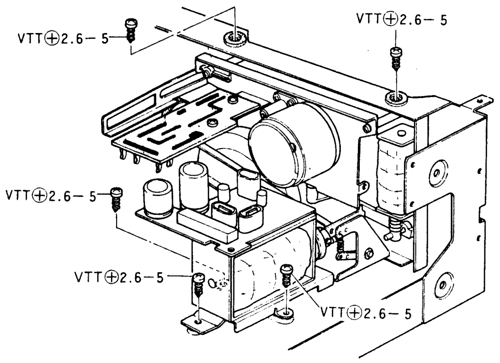
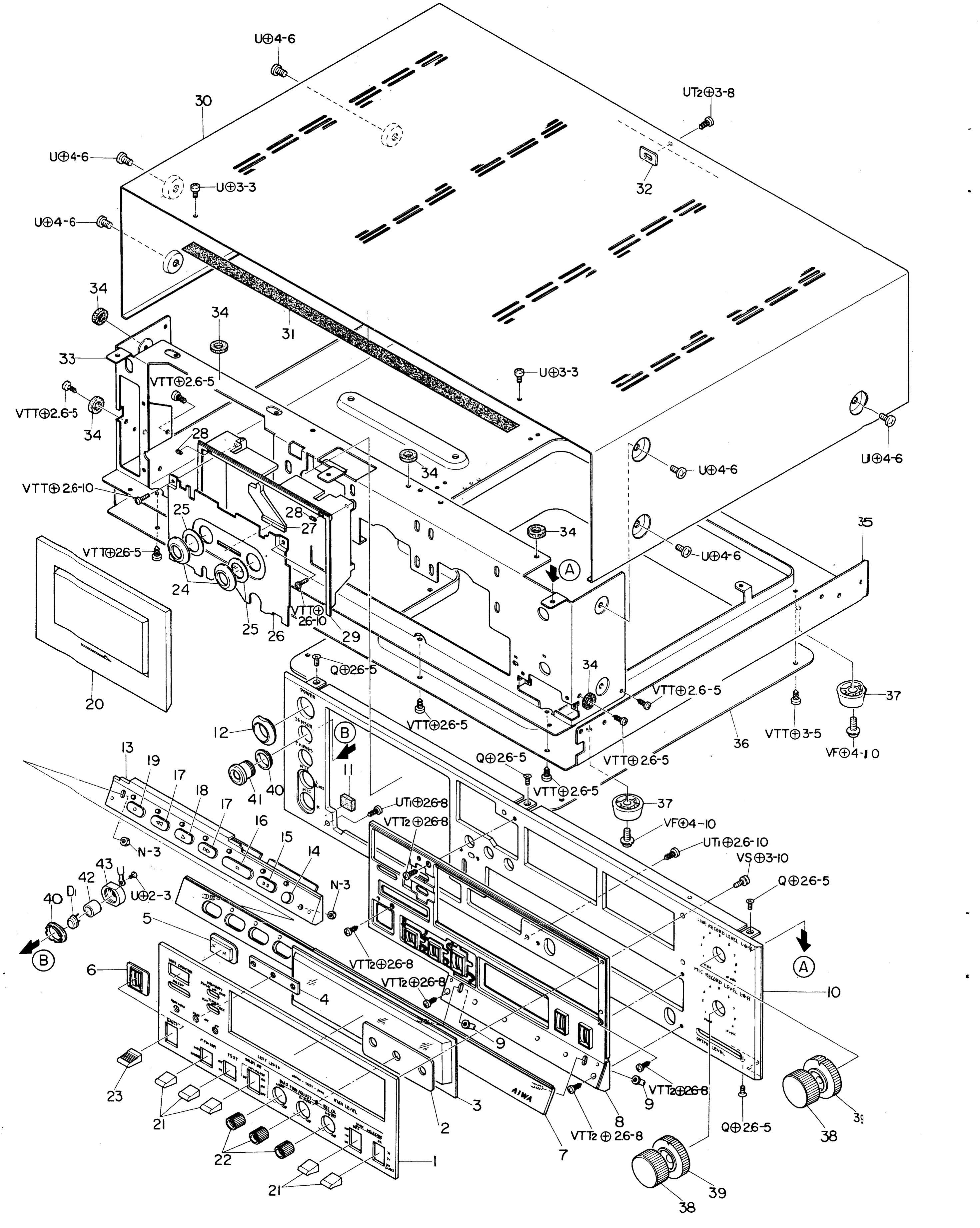

VTT⊕2.6− 5
VTT⊕2.6− 5
VTT⊕2.6− 5
VTT⊕2.6−5
VTT⊕2.6− 5

Fig. 5

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ **MEMO** ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

EXPLODED VIEW–1


U⊕4-6
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UT2⊕3-8
U⊕4-6
U⊕3-3
32
U⊕4-6
34
34
31
33
VTT⊕2.6-5
VTT⊕2.6-5
34
U⊕3-3
U⊕4-6
28
34
U⊕4-6
VTT⊕2.6-10
25
28
27
34
35
VTT⊕2.6-5
U⊕4-6
A
24
VTT⊕2.6-10
25
26
29
20
Q⊕2.6-5
34
VTT⊕2.6-5
37
B
12
VTT⊕2.6-5
36
VTT⊕3-5
VF⊕4-10
13
19
40
41
Q⊕2.6-5
VTT⊕2.6-5
17
18
11
VTT⊕2.6-5
37
UT1⊕2.6-8
VTT2⊕2.6-8
17
16
VF⊕4-10
15
UT1⊕2.6-10
N-3
14
VS⊕3-10
43
U⊕2-3
42
D1
40
N-3
Q⊕2.6-5
5
B
A
VTT2⊕2.6-8
6
VTT2⊕2.6-8
4
10
9
23
3
VTT2⊕2.6-8
9
2
21
7
VTT2⊕2.6-8
Q⊕2.6-5
39
22
8
1
38
21
39
38
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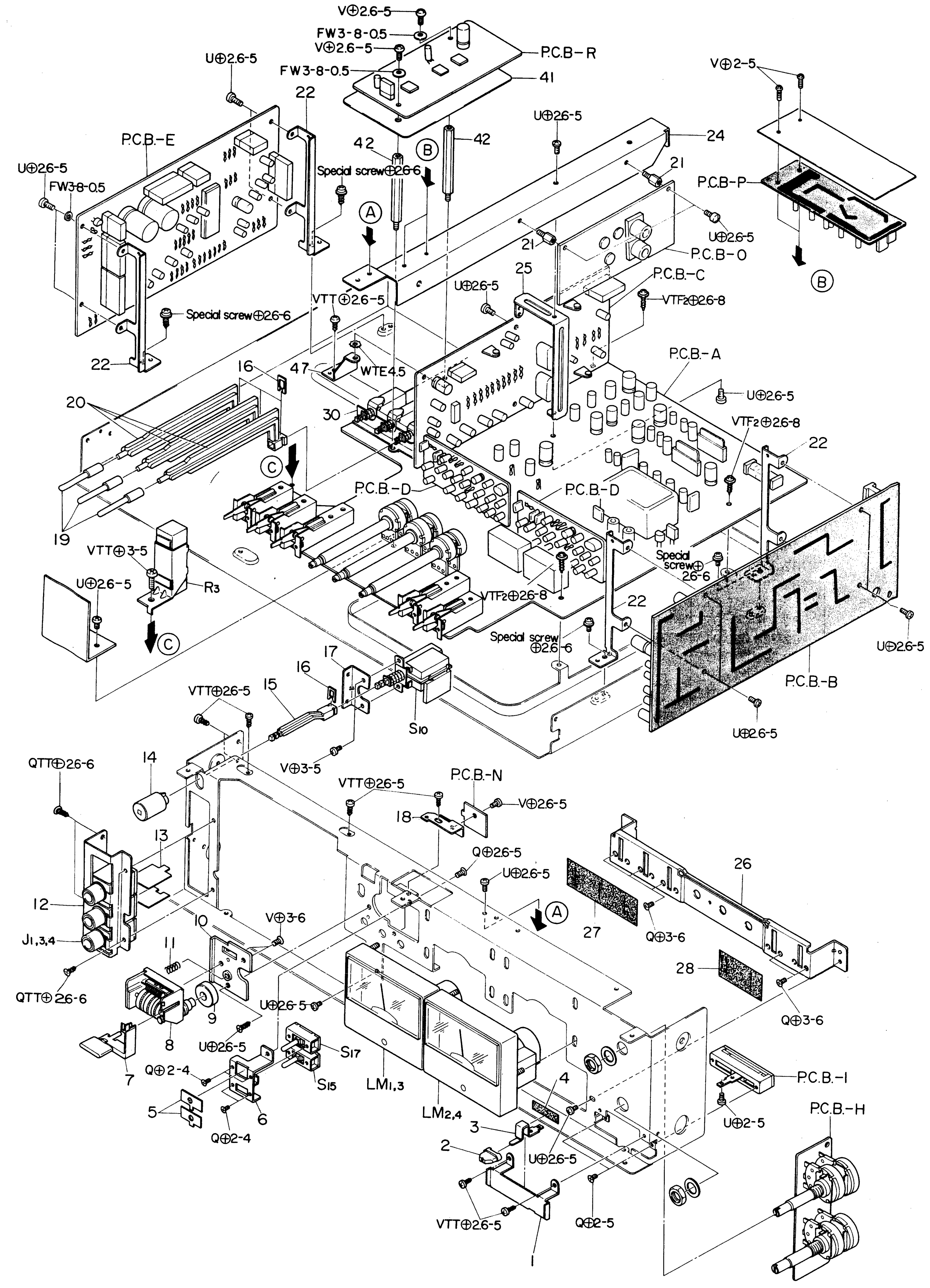
PARTS LIST

MECHANICAL PARTS

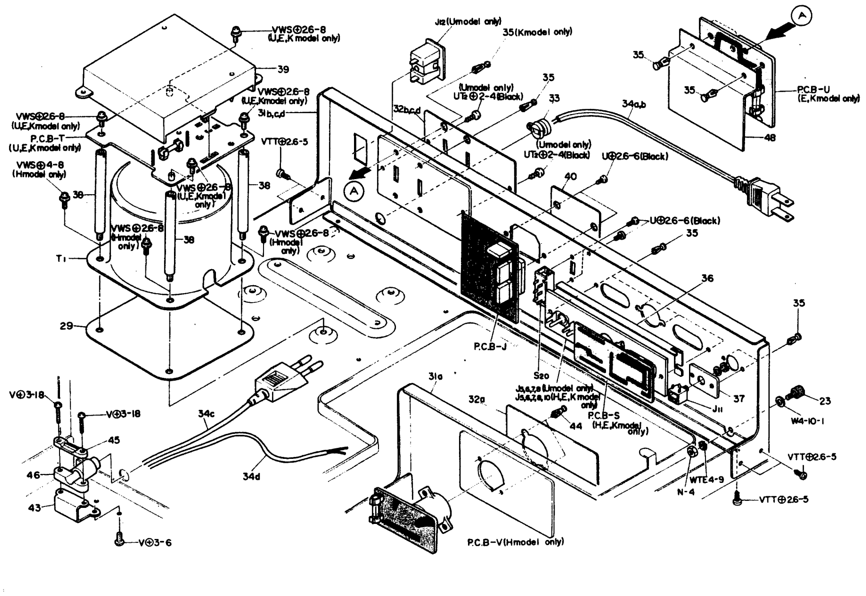
■ * mark in this part list shows exclusive part (which is used) for only Model AD-6900MKII.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	82-328-002-01		Front panel A	*	1
1-2	82-328-019-01		Bias cover	*	1
1-3	82-304-026-01		Window, Meter	AD-6900	1
1-4	82-304-255-01		Guide, Push button	AD-6900	1
1-5	82-304-061-01		Window, Meter	AD-6900	1
1-6	82-328-017-01		Cover, Eject	*	1
1-7	82-153-051-01		Front panel B ass'y		1
1-8	82-328-003-01		Front panel M	*	1
1-9	82-304-245-01		Nut 3-9	AD-6900	2
1-10a	82-153-038-01		Base, Front panel (H,E,K model only)		1
1-10b	82-153-037-01		Base, Front panel (U model only)		1
1-11	82-303-367-01		G cushion, Actuating lock		1
1-12	82-478-012-01		Ring, Power button		1
1-13	82-304-653-01		Switch board ass'y	AD-6900	1
1-14	82-304-087-01		Push-key, REC MUTE ass'y	AD-6900	1
1-15	82-304-085-01		Push-key, PAUSE ass'y	AD-6900	1
1-16	82-304-086-01		Push-key, STOP ass'y	AD-6900	1
1-17	82-304-084-01		Push-key, FF ass'y	AD-6900	2
1-18	82-304-083-01		Push-key	AD-6900	
1-19	82-304-082-01		Push-key REC ass'y	AD-6900	1
1-20	09-047-137-01		Cassette lid ass'y	*	5
	82-328-014-01		Cassette lid ass'y	*	1
	82-304-043-01		Window, Cassette	AD-6900	1
1-21	82-328-024-01		Knob, Selector	*	5
1-22	82-328-009-01		Knob C ass'y	*	3
1-23	82-328-025-01		Knob, Eject key	*	1
1-24	82-397-039-01		Ring, Leel platform	AD-6550	2
1-25	82-397-290-01		Adhesive sheet	AD-6550	2
1-26	82-304-045-01		Cassette plate	AD-6900	1
1-27	82-304-044-01		Guide, Light	AD-6900	1
1-28	82-328-020-01		S cushion, Lid	*	2
1-29	82-328-023-01		Blinder	*	1
1-30	82-307-007-01		Steel cabinet	AD-6700	1
1-31	82-397-245-01		Himeron cloth, Cabinet	AD-6550	1
1-32	82-380-439-01		Spacer, Back panel	AD-6500	1
1-33	82-304-202-01		Chassis, Front	AD-6900	1
1-34	82-304-302-01		G cushion, Spacer	AD-6900	7
1-35	82-304-201-01		Chassis, Amp.	AD-6900	1
1-36	82-304-203-01		Back cover	AD-6900	1
1-37	87-085-161-01		Foot		4
1-38	82-328-005-01		Knob A ass'y	*	2
1-39	82-328-007-01		Knob B ass'y	*	2
1-40	82-307-026-01		Guide, Pipe	AD-6700	2
1-41	82-153-048-01		Pipe		1
1-42	82-307-234-01		G cushion	AD-6700	1
1-43	82-307-235-01		Nut	AD-6700	1
[U model only]					
	87-052-014-01		Side panel L ass'y		1
	87-052-016-01		Side panel R ass'y		1

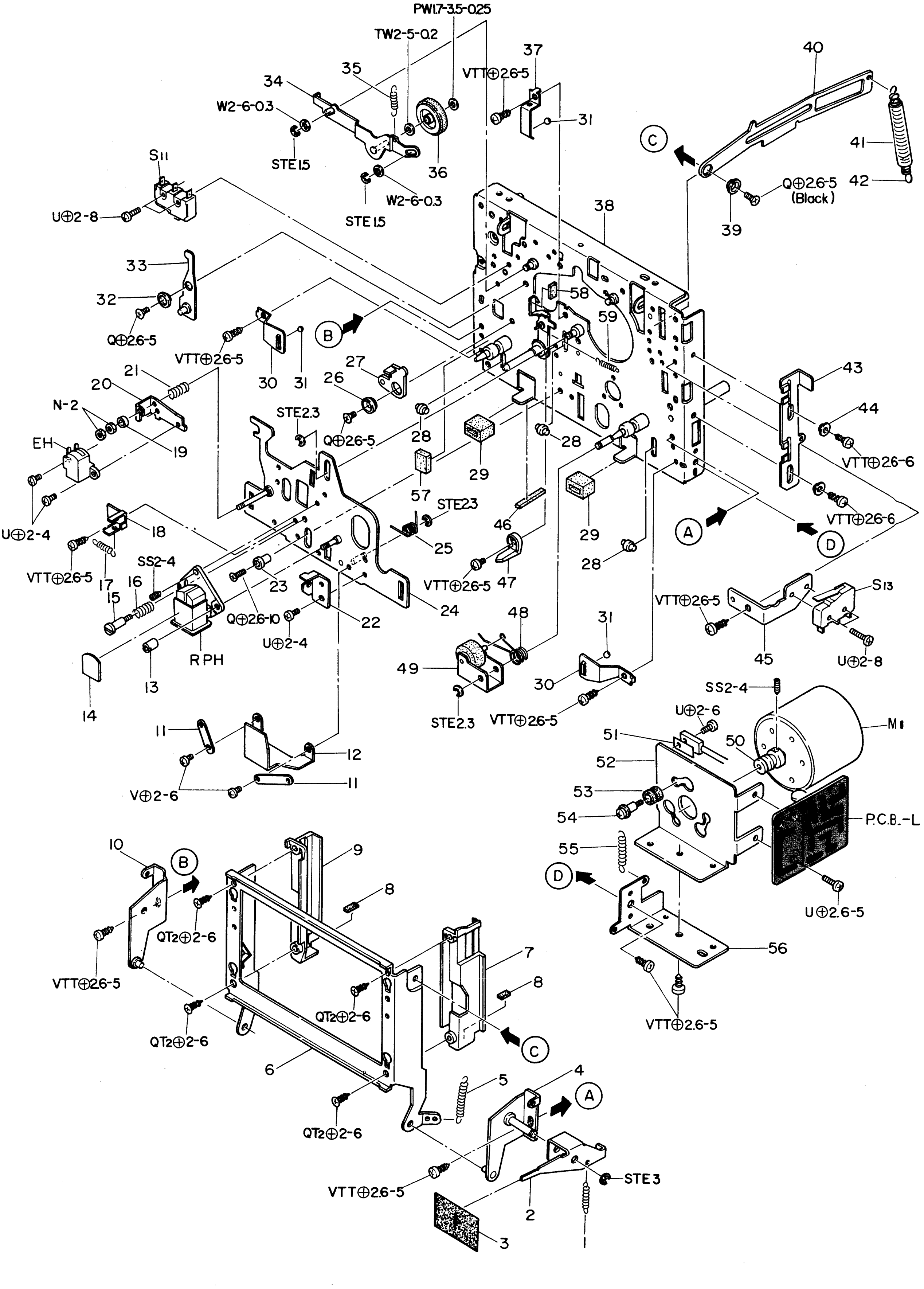
EXPLODED VIEW–2


V⊕2.6-5
FW3-8-0.5
V⊕2.6-5
P.C.B-R
U⊕2.6-5
FW3-8-0.5
41
V⊕2-5
22
P.C.B.-E
42
B
42
U⊕2.6-5
24
U⊕2.6-5
FW3-8-0.5
Special screw⊕2.6-6
21
P.C.B-P
A
U⊕2.6-5
21
P.C.B-O
B
25
P.C.B-C
U⊕2.6-5
VTT⊕2.6-5
VTF2⊕2.6-8
Special screw⊕2.6-6
P.C.B.-A
22
16
47
WTE4.5
U⊕2.6-5
20
30
VTF2⊕2.6-8
22
C
P.C.B.-D
P.C.B.-D
19
VTT⊕3-5
Special screw⊕2.6-6
U⊕2.6-5
R3
VTF2⊕2.6-8
22
C
Special screw ⊕2.6-6
U⊕2.6-5
17
16
VTT⊕2.6-5
15
P.C.B.-B
S10
U⊕2.6-5
V⊕3-5
QTT⊕2.6-6
14
VTT⊕2.6-5
P.C.B.-N
18
V⊕2.6-5
13
Q⊕2.6-5
U⊕2.6-5
26
12
A
27
V⊕3-6
Q⊕3-6
J1,3,4
10
11
28
QTT⊕2.6-6
U⊕2.6-5
Q⊕3-6
9
8
U⊕2.6-5
S17
4
P.C.B.-I
7
Q⊕2-4
S15
LM1,3
5
6
LM2,4
U⊕2-5
P.C.B.-H
3
Q⊕2-4
2
U⊕2.6-5
Q⊕2-5
VTT⊕2.6-5
1

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-328-018-01		Cover, PB volume	*	1
2-2	82-328-011-01		Knob D ass'y	*	1
2-3	82-304-254-01		Holder, Volume	AD-6900	1
2-4	82-304-291-01		Himeron cloth, PB volume	AD-6900	1
2-5	82-304-048-01		Selector cover	AD-6900	1
2-6	82-304-205-01		Holder B, Switch	AD-6900	1
2-7	82-304-027-01		Button, Reset	AD-6900	1
2-8	87-040-100-01		Counter	AD-6900	1
2-9	82-379-617-01		Ring magnet	AD-1800	1
2-10	82-304-206-01		Holder, Counter	AD-6900	1
2-11	82-304-303-01		C spring, Reset	AD-6900	1
2-12	82-304-634-01		Jack ass'y	AD-6900	1
2-13	82-304-647-01		Jack shield plate	AD-6900	1
2-14	82-321-015-01		AC switch button silver ass'y		1
2-15	82-304-210-01		Rod, Power	AD-6900	1
2-16	82-385-383-01		Stopper, Rod	AD-6300	4
2-17	82-304-258-01		Holder, Power	AD-6900	1
2-18	82-397-265-01		Holder, Hall IC	AD-6550	1
2-19	82-304-028-01		Push button	AD-6900	3
2-20	82-304-211-01		Rod selector	AD-6900	3
2-21	82-307-229-01		Holder, Circuit board	AD-6700	2
2-22	82-304-207-01		Holder A, Circuit board	AD-6900	4
2-23	87-033-088-01		Earth terminal		1
2-24	82-307-232-01		Holder C, Circuit board	AD-6700	1
2-25	82-304-262-01		Holder D, Circuit board	AD-6900	1
2-26	82-304-204-01		Holder A, Switch	AD-6900	1
2-27	82-304-273-01		Himeron cloth, Selector A	AD-6900	1
2-28	82-304-274-01		Himeron cloth, Selector B	AD-6900	1
2-29	82-304-735-01		Shield plate, Power transformer	AD-6900	1
2-30	82-304-300-01		Holder, Selector switch	AD-6900	1
2-31a	82-307-031-01		Back panel (H model only)	AD-6700	1
2-31b	82-307-029-01		Back panel (U model only)	AD-6700	1
2-31c	82-307-032-01		Back panel (E model only)	AD-6700	1
2-31d	82-307-033-01		Back panel (K model only)	AD-6700	1
2-32a	82-153-040-01		Name plate, Spec. (H model only)		1
2-32b	82-153-044-01		Name plate, Spec. (U model only)		1
2-32c	82-153-042-01		Name plate, Spec. (E model only)		1
2-32d	82-153-043-01		Name plate, Spec. (K model only)		1
2-33	87-085-101-01		Cord bushing		1
2-34a	87-034-826-01		AC power cord (H model only)		1
2-34b	87-034-874-01		AC power cord (U model only)		1
2-34c	87-034-877-01		AC power cord (E model only)		1
2-34d	87-034-872-01		AC power cord (K model only)		1
2-35	87-085-102-01		Nylon rivet		H,U:6 E; 12,K:10
2-36	82-386-629-01		Shield plate, Jack	AD-1250	1
2-37	82-387-273-01		Holder, Jack	AD-6800	1
2-38	82-304-325-01		Holder I, Circuit board (U,E,K model only)	AD-6900	4
2-39	82-304-326-01		Shield case, Fuse (U,E,K model only)	AD-6900	1
2-40	82-307-028-01		Sheet, Brind	AD-6700	1
2-41	82-307-654-11		Shield sheet, Remote	AD-6700	1
2-42	82-307-236-01		Holder B, Circuit board	AD-6700	2
2-43	82-397-244-01		Holder, AC power cord (E,K model only)	AD-6550	1
2-44	87-085-090-01		Nylon rivet (H model only)		2
2-45	87-085-094-01		Holder A, AC power cord(E,K model only)		1
2-46	87-085-095-01		Holder B, AC power cord (E,K model only)		1
2-47	82-304-306-01		Holder F, Circuit board	AD-6900	1
2-48	82-304-749-01		Insulation plate, V selector	AD-6900	1


VWS⊕2.6-8 (U,E,K model only)
39
VWS⊕2.6-8 (U,E,Kmodel only)
31b,c,d
VWS⊕2.6-8 (U,E,Kmodel only)
P.C.B-T (U,E,Kmodel only)
VWS⊕4-8 (Hmodel only)
38
VTT⊕2.6-5
VWS⊕2.6-8 (U,E,Kmodel only)
38
VWS⊕2.6-8 (Hmodel only)
38
VWS⊕2.6-8 (Hmodel only)
T₁
29
J₁₂(Umodel only)
35(Kmodel only)
35
(Umodel only) UT₂⊕2-4(Black)
33
32b,c,d
34a,b
(Umodel only) UT₂⊕2-4(Black)
U⊕2.6-6(Black)
40
A
A
35
35
P.C.B-U (E,Kmodel only)
48
U⊕2.6-6(Black)
35
36
35
P.C.B-J
S₂₀
J₅,₆,₇,₈(Umodel only)
J₅,₆,₇,₈,₁₀(H,E,K model only)
P.C.B-S (H,E,Kmodel only)
44
37
J₁₁
23
W4-10-1
VTT⊕2.6-5
VTT⊕2.6-5
WTE4-9
N-4
31a
32a
34c
34d
V⊕3-18
V⊕3-18
45
46
43
V⊕3-6
P.C.B-V(Hmodel only)

EXPLODED VIEW–3


PW1.7-3.5-0.25
TW2-5-0.2
35
34
W2-6-0.3
STE1.5
36
W2-6-0.3
STE1.5
37
VTT⊕2.6-5
31
40
C
41
Q⊕2.6-5
(Black)
42
39
38
S11
U⊕2-8
33
32
Q⊕2.6-5
58
59
B
VTT⊕2.6-5
30
31
27
21
20
26
N-2
STE2.3
Q⊕2.6-5
28
19
EH
28
29
57
STE2.3
43
44
VTT⊕2.6-6
VTT⊕2.6-6
U⊕2-4
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VTT⊕2.6-5
17
16
SS2-4
15
25
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29
A
D
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Q⊕2.6-10
U⊕2-4
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VTT⊕2.6-5
47
28
RPH
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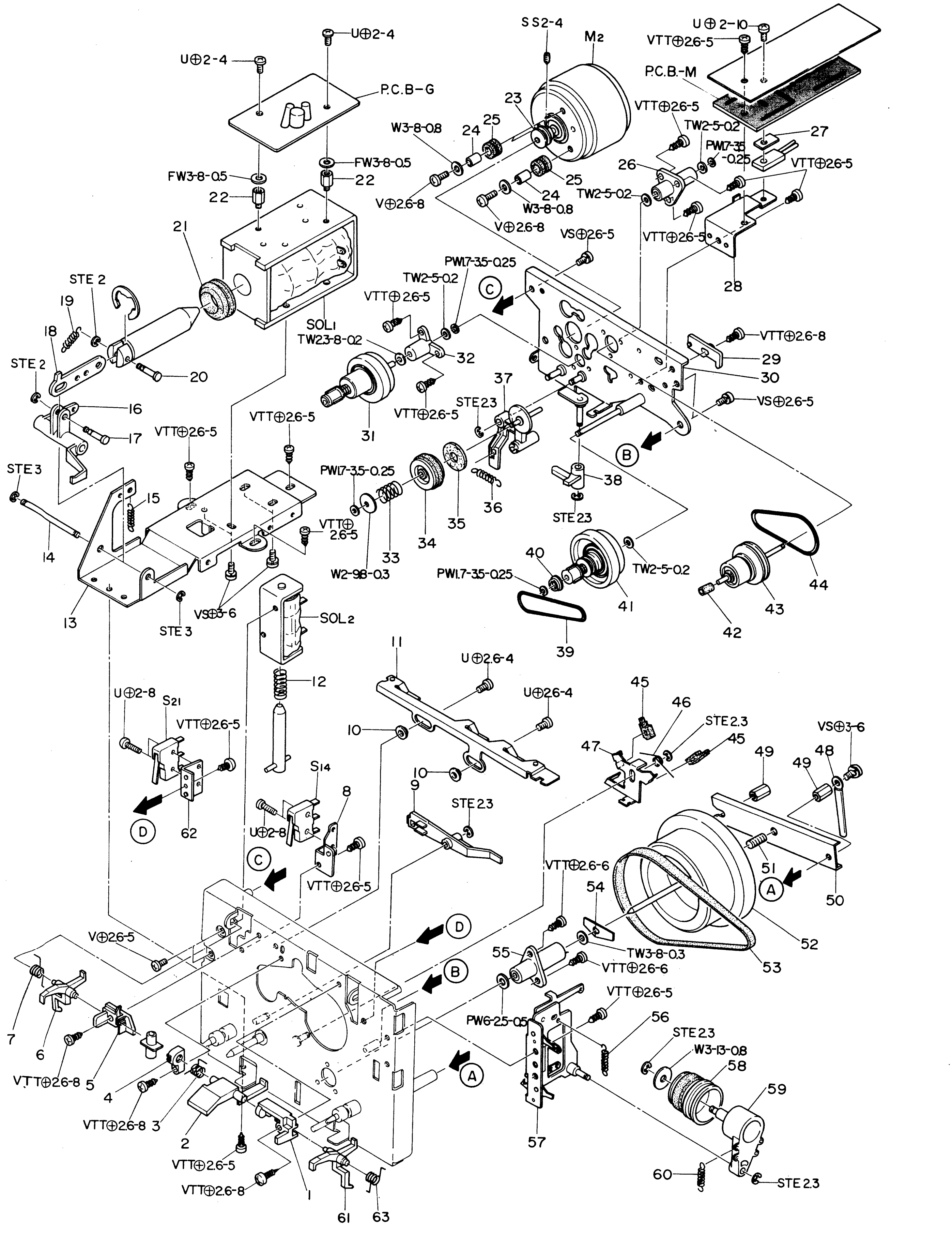
14
48
49
31
30
STE2.3
VTT⊕2.6-5
VTT⊕2.6-5
S13
45
U⊕2-8
SS2-4
U⊕2-6
M1
51
50
52
53
54
P.C.B.-L
55
11
12
V⊕2-6
11
10
B
9
8
QT2⊕2-6
VTT⊕2.6-5
D
U⊕2.6-5
56
7
8
QT2⊕2-6
QT2⊕2-6
VTT⊕2.6-5
C
6
5
4
A
QT2⊕2-6
STE3
VTT⊕2.6-5
2
3
1

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-304-264-01		Spring, Eject lever	AD-6900	1
3-2	82-304-236-01		Lever, Eject key	AD-6900	1
3-3	82-304-275-01		Himeron cloth, Eject	AD-6900	1
3-4	82-304-215-01		Holder, Cassette box R ass'y	AD-6900	1
3-5	82-304-252-01		Spring, Cassette lid	AD-6900	1
3-6	82-304-212-01		Cassette box ass'y	AD-6900	1
3-7	82-304-046-01		Cassette holder R	AD-6900	1
3-8	82-304-284-01		Cushion, Cassette	AD-6900	2
3-9	82-304-047-01		Cassette holder L	AD-6900	1
3-10	82-304-219-01		Holder, Cassette box L ass'y	AD-6900	1
3-11	82-365-280-01		Holder, Wire		2
3-12	82-304-308-01		Shield plate,	AD-6900	1
3-13	82-304-317-01		Nut, Azimuth	AD-6900	1
3-14	82-304-069-01		Label, Head	AD-6900	1
3-15	82-304-289-01		Screw, Rec./Pb. head	AD-6900	1
3-16	82-304-290-01		Spring, Rec./Pb. head	AD-6900	1
3-17	82-303-377-01		Spring A, Erase head		1
3-18	82-303-375-01		Stopper, Erase head		1
3-19	82-303-371-01		Collar, Erase head		1
3-20	82-303-374-01		Holder, Erase head		1
3-21	82-303-376-01		Spring, Erase head		1
3-22	82-303-294-01		Holder, Spring		1
3-23	82-303-306-01		Flange collar, Actuating		1
3-24	82-303-236-01		Actuating chassis ass'y		1
3-25	82-303-315-01		Spring, Actuating		1
3-26	82-303-295-01		Flange collar, Actuating lock		1
3-27	82-303-288-01		Lever, Actuating lock		1
3-28	82-303-302-01		Roller, Actuating		3
3-29	82-303-312-01		Cushion, Actuating		2
3-30	82-303-299-01		Spring, Actuating B		2
3-31	82-215-341-01		Steel ball		3
3-32	82-303-303-01		Flange collar idler lever		1
3-33	82-303-337-01		Lever, Play idler B ass'y		1
3-34	82-303-342-01		Lever, Play idler ass'y		1
3-35	82-303-325-01		Spring, Play idler		1
3-36	82-303-274-01		Play idler ass'y		1
3-37	82-303-298-01		Spring, Actuating A		1
3-38	82-304-201-01		Mechanism chassis ass'y		1
3-39	82-304-287-01		Flange collar, Cassette lid	AD-6900	1
3-40	82-304-239-01		Lock plate, Cassette lid	AD-6900	1
3-41	87-830-504-01		UL tube 5φ x 40		1
3-42	82-304-318-01		Spring, Lock plate	AD-6900	1
3-43	82-304-237-01		Slide plate, Eject	AD-6900	1
3-44	82-304-241-01		Flange collar, Eject	AD-6900	1
3-45	82-304-235-01		Holder, Lead switch	AD-6900	1
3-46	82-303-372-01		Felt, Erase head		1
3-47	82-303-290-01		Guide, Cassette lid		1
3-48	82-303-316-01		Spring, Pinch lever		1
3-49	82-303-260-01		Pinch roller ass'y		1
3-50	82-303-301-01		Motor pulley, Flywheel		1
3-51	82-304-701-01		Spacer, Insulation	AD-6900	1
3-52	82-304-256-01		Holder, Motor A	AD-6900	1
3-53	87-087-029-01		Rubber cushion		3
3-54	87-081-483-01		Motor screw, M2.6		3
3-55	82-304-265-01		Spring, Eject	AD-6900	1
3-56	82-304-257-01		Holder, Motor B	AD-6900	1
3-57	82-303-367-01		Cushion, Actuating		1
3-58	82-303-382-01		Felt, Brake		1
3-59	82-303-326-01		Spring, Back tension		1

EXPLODED VIEW–4


U⊕2-4
U⊕2-4
P.C.B-G
FW3-8-0.5
FW3-8-0.5
22
22
21
SOL1
STE 2
19
18
STE 2
20
16
17
STE3
14
13
15
VTT⊕2.6-5
VTT⊕2.6-5
VTT⊕2.6-5
VS⊕3-6
STE 3
SOL2
12
SS2-4
M2
23
W3-8-0.8
24
25
V⊕2.6-8
25
24
W3-8-0.8
V⊕2.6-8
U⊕2-10
VTT⊕2.6-5
P.C.B.-M
VTT⊕2.6-5
TW2-5-0.2
27
PW1.7-35-0.25
26
VTT⊕2.6-5
TW2-5-0.2
VTT⊕2.6-5
28
VS⊕2.6-5
PW1.7-35-0.25
TW2-5-0.2
VTT⊕2.6-5
C
TW2.3-8-0.2
32
31
VTT⊕2.6-5
37
STE2.3
29
VTT⊕2.6-8
30
VS⊕2.6-5
B
38
STE2.3
36
35
34
33
PW1.7-3.5-0.25
VTT⊕ 2.6-5
W2-9.8-0.3
40
PW1.7-35-0.25
41
TW2-5-0.2
39
43
44
42
11
U⊕2.6-4
U⊕2.6-4
10
10
9
STE2.3
45
46
STE2.3
45
47
49
49
48
VS⊕3-6
51
A
50
52
53
U⊕2-8
S21
VTT⊕2.6-5
D
62
S14
8
U⊕2-8
C
VTT⊕2.6-5
VTT⊕2.6-6
54
D
B
55
TW3-8-0.3
VTT⊕2.6-6
VTT⊕2.6-5
56
PW6-2.5-0.5
STE2.3
W3-13-0.8
58
59
A
57
V⊕2.6-5
7
6
VTT⊕2.6-8
5
4
VTT⊕2.6-8
3
2
VTT⊕2.6-5
VTT⊕2.6-8
1
61
63
60
STE2.3

ELECTRICAL MAIN PARTS LIST

≪REC/PB CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-A	82-328-601-01	REC/PB circuit board
IC1,2	82-304-682-01	IC, TA7220 (P)
Q1,2	89-314-005-01	Transistor, 2SC1400 (E)
Q3,4	87-027-245-01	FET, 2SK68A (M)
Q5,6,7,8 101,102	89-312-222-01	Transistor, 2SC1222 (E)
Q103,104 105,106 301,303 305,306	89-318-154-01	Transistor, 2SC1815 (Y)
Q201,202 203,251	89-405-712-01	Transistor, 2SD571 (L)
Q204	89-206-051-01	Transistor, 2SB605 (K)
Q205	89-405-711-01	Transistor, 2SD571 (K)
Q206	89-402-344-01	Transistor, 2SD234 (Y)
Q302	89-316-348-01	Transistor, 2SC1634 (8)
Q307,308 309,310	89-402-275-01	Transistor, 2SD227 (V)
Q311,312	89-320-011-01	Transistor, 2SC2001 (K)
Q401~414	89-309-455-01	Transistor, 2SC945L (Q)
D201,203	87-027-163-01	Diode, 1B4B1
D202	82-372-631-01	Zener diode, XZ-315
D204,205	87-027-283-01	Zener diode, 05Z-13U
D206,207 208	87-027-083-01	Diode, 1S1885
D209	87-027-436-01	Zener diode, HZ11B1
D210	87-027-199-01	Zener diode, 05Z-15U
D251,304 309	87-026-069-01	Zener diode, WZ-052
D252,253 301,302 305,308 310,401 402,403	87-027-097-01	Diode, 1S555
L1,2,3,4	82-371-622-01	Coil, 23mH
L101,102	82-385-636-01	Coil, 6.8mH
L103,104	82-304-714-01	Coil, 3.3mH
L105,106	82-304-715-01	Coil, 3.9mH
L107,108	82-304-701-01	Coil, 22mH
LPF101,102	82-397-634-01	Low-pass filter
OSC UNIT	82-328-602-01	OSC unit
RY1,S9	84-184-612-01	Relay, HA212N (STOP MUTING)
VR7,8,9,10 13,14	82-304-623-11	Volume, 50kΩ x 2, 20kΩ x 1 (REC CAL, BIAS FINE ADJ)
VR11,12,15	82-304-624-11	Volume, 50kΩ x 3 (REC CAL, BIAS FINE ADJ)
S1,2	82-304-627-01	Lever switch (MONITOR, TEST)
S3,4	82-304-629-01	Lever switch (DOLBY—NR, BIAS)
S5	82-304-628-01	Lever switch (EQ)
S6,7,8	82-304-626-01	Push switch (PEAK HOLD, PEAK, VU)
SFR1,2,3,4 105,106	87-021-363-01	Semi-fixed resistor, 47kΩ—B
SFR101,102 103,104,252	87-021-366-01	Semi-fixed resistor, 10kΩ—B
SFR251	87-021-406-01	Semi-fixed resistor, 4.7kΩ—B
SFR253,254	87-021-367-01	Semi-fixed resistor, 100kΩ—B
Th1,2	82-304-720-01	Thermistor, 1.7kΩ
Th3,4	82-304-722-01	Thermistor, 20kΩ
		< Resistors >
⚠ R217	87-029-108-01	1Ω ½W Fuse resistor
⚠ R218	87-029-067-01	4.7Ω ½W Fuse resistor

Symbol No.	Part No.	Description
⚠ R202	87-029-016-01	22Ω ½W Fuse resistor
⚠ R209	87-029-017-01	10Ω ¼W Fuse resistor
⚠ R210	87-029-007-01	22Ω ¼W Fuse resistor
		< Capacitors >
C21,22	87-015-327-01	0.1μF 50V Electrolytic LL
C115,116	87-968-410-01	100pF 500V Dipped mica
C35,36	87-014-033-01	100pF ±5% PP
C25,26	87-014-047-01	390pF ±5% PP
C17,18	82-304-648-01	0.018μF ±2% PP

≪FRTS CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-B	82-304-607-31	Frts circuit board
IC1,2	87-027-137-01	IC, TA-7122AP
IC3	87-027-235-01	IC, NJM-4558D
Q1,2	82-371-625-01	FET, 2SK30 (D)
Q3,4,5,6	89-312-222-01	Transistor 2SC1222 (E)
Q7,8,12	89-402-275-01	Transistor, 2SD227 (V)
Q9,10,11 13,14	89-318-154-01	Transistor, 2SC1815 (Y)
D1,2	87-027-171-01	Zener diode, RD2.7E
D3,4,5,6	87-026-066-01	Diode, M8513A (O)
SFR1,2	87-021-525-01	Semi-fixed resistor, 3kΩ—B
SFR3	87-021-481-01	Semi-fixed resistor, 100kΩ—B
SFR4	87-021-431-01	Semi-fixed resistor, 30kΩ—B
SFR5	87-021-480-01	Semi-fixed resistor, 50kΩ—B
SFR6	87-021-434-01	Semi-fixed resistor, 20kΩ—B
PIN-1	87-032-897-01	Pin, 3P
		< Resistors >
R92	82-304-684-01	47Ω 10W Cement resistor
		< Capacitors >
C49,50	87-015-241-01	1μF 50V Electrolytic LL
C57,58	87-015-242-01	2.2μF 50V Electrolytic LL
C33,34	87-015-243-01	3.3μF 50V Electrolytic LL
C53,54	87-015-246-01	4.7μF 25V Electrolytic LL
C43,44	87-015-247-01	10μF 25V Electrolytic LL
C2,4	87-014-049-01	470pF ±5% PP

≪PEAK METER CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-C	82-304-606-51	Peak meter circuit board
IC1,3,101	87-027-183-01	IC, NUM-4558
IC2	87-027-184-01	IC, μPC324C
Q1,2	89-107-505-01	Transistor, 2SA-750 (E)
Q3,4	87-027-198-01	FET, 2SK68 (N)
Q5,6,7,8	87-027-245-01	FET, 2SK68A (N)
Q9,10,12	89-107-335-61	Transistor, 2SA733 (K, P)
Q11,13,101 102,103 104	89-309-455-61	Transistor, 2SC945 L (P, Q)
D1~8	87-027-253-01	Diode, M8513A (AIWA)
D9,10,11 12,43,44	87-027-097-01	Diode, 1S1555
D41	82-371-647-01	Zener diode, RD-7.5E
D101,102,103 104,105,106	88-052-188-11	Diode, 1S188 (FM)
Th1,2	82-304-721-01	Thermistor, 5kΩ
SFR1,2	87-021-522-01	Semi-fixed resistor, 1MΩ—B
SFR3,4	87-021-524-01	Semi-fixed resistor, 10kΩ—B
SFR5,6	87-021-512-01	Semi-fixed resistor, 2kΩ—B
SFR101,102	87-021-520-01	Semi-fixed resistor 5kΩ—B
PIN-3	87-032-904-01	Pin, 4P
PIN	87-032-635-01	Pin, 5P
PIN-2	87-032-906-01	Pin, 6P
PIN	87-032-638-01	Pin, 8P

Symbol No.	Part No.	Description
		< Capacitors >
C5,6,101,102	87-015-379-01	1μF 50V Electrolytic BP
C1,2,103,104	87-015-380-01	4.7μF 25V Electrolytic BP
C7,8	87-014-082-01	0.47μF 50V Mylar

≪DOLBY—NR CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-D	82-304-728-11	Dolby—NR circuit board
IC1,2	82-304-729-01	IC, CR-713
D1	82-371-647-01	Zener diode, RD-7.5 (E)
D3,4	88-051-060-01	Diode, 1N60
	87-032-898-01	IC socket, 16P
PIN	87-032-646-01	Pin, 16P
		< Resistor >
R9,10	82-371-652-01	3.3kΩ ¼W ±1%
		< Capacitors >
C1,2	87-015-241-01	1μF 50V Electrolytic LL
C9,10	87-015-247-01	10μF 25V Electrolytic LL
C11,12	82-371-643-01	4700pF ±2% PP
C3,4	82-371-642-01	5600pF ±2% PP
C13,14	82-371-641-01	0.027μF ±2% PP

≪MICROPROCESSOR CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-E	82-319-602-31	Microprocessor circuit board
IC1	87-027-425-01	IC, μPD-546C-66
IC2,3,4	87-027-426-01	IC, 1R-2403
Q1,2,3,4 5,6,10,12	89-309-455-01	Transistor, 2SC945L (Q)
Q7,9,11	89-404-143-01	Transistor, 2SD414 (Q)
Q8	89-402-344-01	Transistor, 2SD234 (Y)
Q13	89-309-457-01	Transistor, 2SC945L (K)
D1	88-052-188-11	Diode, 1S188 (FM)
D2,3,4,6, 7,8,9,11 12,16	87-027-097-01	Diode, 1S1555
D5	87-027-416-01	Zener diode, HZ3C2
D10	87-026-069-01	Zener diode, WZ-052
D13,14	87-027-365-01	Diode, S5277 (B)
D15	87-027-140-01	Zener diode, 05Z-6.2U
D17	87-027-171-01	Zener diode, RD2.7E
D18	87-027-097-01	Diode, 1S1555
RY1,S18	82-304-651-01	Relay, L
RY2,S19	84-196-630-01	Relay, BR211AD
X1	87-008-186-01	Ceramic, CSB400R1
PIN-6,7	87-032-904-01	Pin, 4P
PIN-22	87-032-905-01	Pin, 5P
PIN-5	87-032-906-01	Pin, 6P
PIN-9	87-032-908-01	Pin, 8P
PIN-8	87-032-909-01	Pin, 9P
PIN-4	87-032-910-01	Pin, 10P
PIN-10	87-032-912-01	Pin, 12P
		< Resistor >
⚠ R51	87-029-015-01	10Ω ¼W Fuse resistor (E,K model only)

≪TERMINAL CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-G	82-304-753-01	Terminal circuit board
Q1	89-309-455-01	Transistor, 2SC945L (Q)
D1	87-027-365-01	Diode, S5277B
D2	88-052-188-11	Diode, 1S188 (FM)

≪VOLUME CIRCUIT BOARD—2 SECTION≫

Symbol No.	Part No.	Description
PCB-H	82-304-691-21	Volume circuit board—2
VR1,2	82-304-680-11	Volume, 20kΩ—A (MIC RECORD LEVEL)
VR3,4	82-304-681-11	Volume, 50kΩ—A (LINE RECORD LEVEL)

≪VOLUME CIRCUIT BOARD—1 SECTION≫

Symbol No.	Part No.	Description
PCB-I	82-304-605-11	Volume circuit board—1
VR5,6	82-304-622-01	Slide volume, 10kΩ—A (OUTPUT LEVEL)

≪REMOTE CONTROL JACK CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-J	82-307-653-11	Remote control jack circuit board
J9	82-307-669-01	Connector

≪SWITCH CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-K	82-304-740-11	Switch circuit board ass'y
D1,6	87-026-112-01	Light emitting diode, SEL-1033 (RED)
D2,3,4,5	87-026-113-01	Light emitting diode, SEL-303E (GRN)

≪DME CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-N	82-307-655-01	DME circuit board
DME	82-397-642-11	DME-101A

≪METAL CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-0	82-304-752-01	Metal circuit board
L1,2	82-304-714-01	Coil, 3.3mH
SFR1,2	87-021-366-01	Semi-fixed resistor, 10kΩ—B
PIN-19	87-032-903-01	Pin, 3P
PIN-18,20	87-032-904-01	Pin, 4P

≪EQ CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-P	82-304-713-11	EQ circuit board
Q1~6	89-318-154-01	Transistor, 2SC1815 (Y)

≪THERMISTOR CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-Q	82-304-719-01	Thermistor circuit board
Th1	82-304-720-01	Thermistor, 1.7kΩ
Th2	82-304-721-01	Thermistor, 5kΩ

≪RX CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
PCB-R	82-307-640-21	RX circuit board
IC1	87-027-355-01	IC, LF357
IC2	87-027-235-01	IC, 4558
IC3	87-027-300-01	IC, 555 TIMER
Q1	89-309-455-61	Transistor, 2SC945L (P,Q)
D2	88-052-188-11	Diode, 1S188 (FM)
D3	87-027-097-01	Diode, 1S1555
PIN-21	87-032-903-01	Pin, 3P

≪JACK CIRCUIT BOARD SECTION≫ = H,E,K model

Symbol No.	Part No.	Description
PCB-S	82-304-734-11	Jack circuit board
Q1	89-316-347-01	Transistor, 2SC1634 (7)
D1	87-027-097-01	Diode, 1S1555
RY1,S19	84-184-612-01	Relay, Reed HA212N
J5,6,7,8,10	82-304-737-01	jack 4P w/DIN (LINE OUT LINE IN, DIN)

≪FUSE CIRCUIT BOARD SECTION≫

Symbol No.	Part No.	Description
⚠ PCB-T	82-304-731-01	Fuse circuit board (U,E,K model only)
⚠ F1	87-035-298-01	Fuse, 1.25A (U model only)
	87-098-166-01	Fuse caution label (U model only)
	87-098-163-01	Fase label (U model only)
⚠ F3,5,6	87-035-107-01	Fuse, "T" 315mA (E,K model only)
	87-098-011-01	Fuse label, "T" 315mA (E,K model only)
⚠ F4	87-035-063-01	Fuse, "T" 630mA (E,K model only)
	87-098-014-01	Fuse label, "T" 630mA (E,K model only)

Symbo
⚠ F7
⚠ F8
⚠ C1
⚠ C1,2
≪VOL
= E,K
⚠ PCB-U
⚠ S22
⚠ S22-1,2
⚠ F1
⚠ F2
≪VOL
= H mo
⚠ PCB-V
⚠ S22
⚠ F1
≪MISC
⚠ T1
⚠ T1
⚠ T1
⚠ T1
D1
RH,PH
EH
M1,PCB-
M2,PCB-
LM1,2,3,
⚠ CP1
PL3
SOL1
SOL2
J1,3,4
J5,6,7,8

Symbol No.	Part No.	Description
⚠ R202	87-029-016-01	22Ω ½W Fuse resistor
⚠ R209	87-029-017-01	10Ω ¼W Fuse resistor
⚠ R210	87-029-007-01	22Ω ¼W Fuse resistor
		< Capacitors >
C21,22	87-015-327-01	0.1μF 50V Electrolytic LL
C115,116	87-968-410-01	100pF 500V Dipped mica
C35,36	87-014-033-01	100pF ±5% PP
C25,26	87-014-047-01	390pF ±5% PP
C17,18	82-304-648-01	0.018μF ±2% PP

≪FRTS CIRCUIT BOARD SECTION≫

PCB-B	82-304-607-31	Frts circuit board
IC1,2	87-027-137-01	IC, TA-7122AP
IC3	87-027-235-01	IC, NJM-4558D
Q1,2	82-371-625-01	FET, 2SK30 (D)
Q3,4,5,6	89-312-222-01	Transistor 2SC1222 (E)
Q7,8,12	89-402-275-01	Transistor, 2SD227 (V)
Q9,10,11 13,14	89-318-154-01	Transistor, 2SC1815 (Y)
D1,2	87-027-171-01	Zener diode, RD2.7E
D3,4,5,6	87-026-066-01	Diode, M8513A (O)
SFR1,2	87-021-525-01	Semi-fixed resistor, 3kΩ—B
SFR3	87-021-481-01	Semi-fixed resistor, 100kΩ—B
SFR4	87-021-431-01	Semi-fixed resistor, 30kΩ—B
SFR5	87-021-480-01	Semi-fixed resistor, 50kΩ—B
SFR6	87-021-434-01	Semi-fixed resistor, 20kΩ—B
PIN-1	87-032-897-01	Pin, 3P
		< Resistors >
R92	82-304-684-01	47Ω 10W Cement resistor
		< Capacitors >
C49,50	87-015-241-01	1μF 50V Electrolytic LL
C57,58	87-015-242-01	2.2μF 50V Electrolytic LL
C33,34	87-015-243-01	3.3μF 50V Electrolytic LL
C53,54	87-015-246-01	4.7μF 25V Electrolytic LL
C43,44	87-015-247-01	10μF 25V Electrolytic LL
C2,4	87-014-049-01	470pF ±5% PP

≪PEAK METER CIRCUIT BOARD SECTION≫

PCB-C	82-304-606-51	Peak meter circuit board
IC1,3,101	87-027-183-01	IC, NUM-4558
IC2	87-027-184-01	IC, μPC324C
Q1,2	89-107-505-01	Transistor, 2SA-750 (E)
Q3,4	87-027-198-01	FET, 2SK68 (N)
Q5,6,7,8	87-027-245-01	FET, 2SK68A (N)
Q9,10,12	89-107-335-61	Transistor, 2SA733 (K, P)
Q11,13,101 102,103 104	89-309-455-61	Transistor, 2SC945 L (P, Q)
D1~8	87-027-253-01	Diode, M8513A (AIWA)
D9,10,11 12,43,44	87-027-097-01	Diode, 1S1555
D41	82-371-647-01	Zener diode, RD-7.5E
D101,102,103 104,105,106	88-052-188-11	Diode, 1S188 (FM)
Th1,2	82-304-721-01	Thermistor, 5kΩ
SFR1,2	87-021-522-01	Semi-fixed resistor, 1MΩ—B
SFR3,4	87-021-524-01	Semi-fixed resistor, 10kΩ—B
SFR5,6	87-021-512-01	Semi-fixed resistor, 2kΩ—B
SFR101,102	87-021-520-01	Semi-fixed resistor 5kΩ—B
PIN-3	87-032-904-01	Pin, 4P
PIN	87-032-635-01	Pin, 5P
PIN-2	87-032-906-01	Pin, 6P
PIN	87-032-638-01	Pin, 8P

Symbol No.	Part No.	Description
		< Capacitors >
C5,6,101,102	87-015-379-01	1μF 50V Electrolytic BP
C1,2,103,104	87-015-380-01	4.7μF 25V Electrolytic BP
C7,8	87-014-082-01	0.47μF 50V Mylar

≪DOLBY—NR CIRCUIT BOARD SECTION≫

PCB-D	82-304-728-11	Dolby—NR circuit board
IC1,2	82-304-729-01	IC, CR-713
D1	82-371-647-01	Zener diode, RD-7.5 (E)
D3,4	88-051-060-01	Diode, 1N60
	87-032-898-01	IC socket, 16P
PIN	87-032-646-01	Pin, 16P
		< Resistor >
R9,10	82-371-652-01	3.3kΩ ¼W ±1%
		< Capacitors >
C1,2	87-015-241-01	1μF 50V Electrolytic LL
C9,10	87-015-247-01	10μF 25V Electrolytic LL
C11,12	82-371-643-01	4700pF ±2% PP
C3,4	82-371-642-01	5600pF ±2% PP
C13,14	82-371-641-01	0.027μF ±2% PP

≪MICROPROCESSOR CIRCUIT BOARD SECTION≫

PCB-E	82-319-602-31	Microprocessor circuit board
IC1	87-027-425-01	IC, μPD-546C-66
IC2,3,4	87-027-426-01	IC, 1R-2403
Q1,2,3,4 5,6,10,12	89-309-455-01	Transistor, 2SC945L (Q)
Q7,9,11	89-404-143-01	Transistor, 2SD414 (Q)
Q8	89-402-344-01	Transistor, 2SD234 (Y)
Q13	89-309-457-01	Transistor, 2SC945L (K)
D1	88-052-188-11	Diode, 1S188 (FM)
D2,3,4,6, 7,8,9,11 12,16	87-027-097-01	Diode, 1S1555
D5	87-027-416-01	Zener diode, HZ3C2
D10	87-026-069-01	Zener diode, WZ-052
D13,14	87-027-365-01	Diode, S5277 (B)
D15	87-027-140-01	Zener diode, 05Z-6.2U
D17	87-027-171-01	Zener diode, RD2.7E
D18	87-027-097-01	Diode, 1S1555
RY1,S18	82-304-651-01	Relay, L
RY2,S19	84-196-630-01	Relay, BR211AD
X1	87-008-186-01	Ceramic, CSB400R1
PIN-6,7	87-032-904-01	Pin, 4P
PIN-22	87-032-905-01	Pin, 5P
PIN-5	87-032-906-01	Pin, 6P
PIN-9	87-032-908-01	Pin, 8P
PIN-8	87-032-909-01	Pin, 9P
PIN-4	87-032-910-01	Pin, 10P
PIN-10	87-032-912-01	Pin, 12P
		< Resistor >
⚠ R51	87-029-015-01	10Ω ¼W Fuse resistor (E,K model only)

≪TERMINAL CIRCUIT BOARD SECTION≫

PCB-G	82-304-753-01	Terminal circuit board
Q1	89-309-455-01	Transistor, 2SC945L (Q)
D1	87-027-365-01	Diode, S5277B
D2	88-052-188-11	Diode, 1S188 (FM)

≪VOLUME CIRCUIT BOARD—2 SECTION≫

PCB-H	82-304-691-21	Volume circuit board—2
VR1,2	82-304-680-11	Volume, 20kΩ—A (MIC RECORD LEVEL)
VR3,4	82-304-681-11	Volume, 50kΩ—A (LINE RECORD LEVEL)

Symbol No.	Part No.	Description

≪VOLUME CIRCUIT BOARD—1 SECTION≫

PCB-I	82-304-605-11	Volume circuit board—1
VR5,6	82-304-622-01	Slide volume, 10kΩ—A (OUTPUT LEVEL)

≪REMOTE CONTROL JACK CIRCUIT BOARD SECTION≫

PCB-J	82-307-653-11	Remote control jack circuit board
J9	82-307-669-01	Connector

≪SWITCH CIRCUIT BOARD SECTION≫

PCB-K	82-304-740-11	Switch circuit board ass'y
D1,6	87-026-112-01	Light emitting diode, SEL-1033 (RED)
D2,3,4,5	87-026-113-01	Light emitting diode, SEL-303E (GRN)

≪DME CIRCUIT BOARD SECTION≫

PCB-N	82-307-655-01	DME circuit board
DME	82-397-642-11	DME-101A

≪METAL CIRCUIT BOARD SECTION≫

PCB-0	82-304-752-01	Metal circuit board
L1,2	82-304-714-01	Coil, 3.3mH
SFR1,2	87-021-366-01	Semi-fixed resistor, 10kΩ—B
PIN-19	87-032-903-01	Pin, 3P
PIN-18,20	87-032-904-01	Pin, 4P

≪EQ CIRCUIT BOARD SECTION≫

PCB-P	82-304-713-11	EQ circuit board
Q1~6	89-318-154-01	Transistor, 2SC1815 (Y)

≪THERMISTOR CIRCUIT BOARD SECTION≫

PCB-Q	82-304-719-01	Thermistor circuit board
Th1	82-304-720-01	Thermistor, 1.7kΩ
Th2	82-304-721-01	Thermistor, 5kΩ

≪RX CIRCUIT BOARD SECTION≫

PCB-R	82-307-640-21	RX circuit board
IC1	87-027-355-01	IC, LF357
IC2	87-027-235-01	IC, 4558
IC3	87-027-300-01	IC, 555 TIMER
Q1	89-309-455-61	Transistor, 2SC945L (P,Q)
D2	88-052-188-11	Diode, 1S188 (FM)
D3	87-027-097-01	Diode, 1S1555
PIN-21	87-032-903-01	Pin, 3P

≪JACK CIRCUIT BOARD SECTION≫ = H,E,K model

PCB-S	82-304-734-11	Jack circuit board
Q1	89-316-347-01	Transistor, 2SC1634 (7)
D1	87-027-097-01	Diode, 1S1555
RY1,S19	84-184-612-01	Relay, Reed HA212N
J5,6,7,8,10	82-304-737-01	jack 4P w/DIN (LINE OUT LINE IN, DIN)

≪FUSE CIRCUIT BOARD SECTION≫

⚠ PCB-T	82-304-731-01	Fuse circuit board (U,E,K model only)
⚠ F1	87-035-298-01	Fuse, 1.25A (U model only)
	87-098-166-01	Fuse caution label (U model only)
	87-098-163-01	Fase label (U model only)
⚠ F3,5,6	87-035-107-01	Fuse, "T" 315mA (E,K model only)
	87-098-011-01	Fuse label, "T" 315mA (E,K model only)
⚠ F4	87-035-063-01	Fuse, "T" 630mA (E,K model only)
	87-098-014-01	Fuse label, "T" 630mA (E,K model only)

Symbol No.	Part No.	Description
⚠ F7	87-035-117-01	Fuse, "T" 1.25A (E,K model only)
	87-098-017-01	Fuse label, "T" 1.25A (E,K model only)
⚠ F8	87-035-064-01	Fuse, "T" 1A (E,K model only)
	87-098-016-01	Fuse label, "T" 1A (E,K model only)
	87-033-147-01	Fuse clamp
		< Capacitors >
⚠ C1	87-019-096-01	0.01μF 250V Line capacitor (E model only)
⚠ C1,2	87-019-096-01	0.01μF 250V Line capacitor (K model only)

≪VOLTAGE SELECTOR CIRCUIT BOARD SECTION≫ = E,K model

⚠ PCB-U	82-304-730-01	Voltage selector circuit board
⚠ S22	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (K model only)
⚠ S22-1,2	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (E model only)
⚠ F1	87-035-075-01	Fuse, "T" 500mA
	87-098-013-01	Fuse label, "T" 500mA
⚠ F2	87-035-107-01	Fuse, "T" 315mA (K model only)
	87-098-011-01	Fuse label, "T" 315mA (K model only)
	87-032-744-01	Fuse clamp

≪VOLTAGE SELECTOR CIRCUIT BOARD SECTION≫ = H model

⚠ PCB-V	82-304-733-11	Voltage selector circuit board
⚠ S22	82-304-732-01	Rotary switch (VOLTAGE SELECTOR)
⚠ F1	87-035-075-01	Fuse, "T" 500mA
	87-098-013-01	Fuse label, "T" 500mA
	87-033-147-01	Fuse clamp

≪MISCELLANEOUS≫

⚠ T1	82-153-601-01	Power transformer (H model only)
⚠ T1	82-304-646-21	Power transformer (U model only)
⚠ T1	82-153-603-01	Power transformer (E model only)
⚠ T1	82-153-604-01	Power transformer (K model only)
D1	87-027-366-01	PIN diode, M133HLF AW
RH,PH	82-304-635-21	RH, PH combination head
EH	87-046-173-01	Erase head
M1,PCB-L	82-304-637-11	Main motor, DC-EG
M2,PCB-M	82-304-638-01	Sub motor, DC-EG
LM1,2,3,4	82-328-607-01	Meter (PEAK/VU)
⚠ CP1	87-028-036-01	Compound capacitor 0.033μF 120Ω (U model only)
PL3	82-304-718-01	Pilot lamp 8V (CASSETTE WINDOW)
SOL1	82-304-639-01	Solenoid (FWD)
SOL2	82-304-640-11	Solenoid (FR)
J1,3,4	82-307-644-01	Jack ass'y (PHONES, MIC)
J5,6,7,8	82-306-670-01	Pin jack, 4P (LINE OUT, LINE IN) (U model only)

Symbol No.	Part No.	Description
J11	87-032-882-01	Jack, 2.5ϕ (PLAYER SYNC)
⚠ J12	87-032-674-01	Jack (AC OUTLET) (U model only)
⚠ S10	87-031-408-01	Push switch (POWER) (H,E,K model only)
⚠ S10	87-031-480-01	Push switch (POWER) (U model only)
S11	82-304-723-01	Micro switch (PLAY DETECTION)
S13,14,21	82-304-724-01	Micro switch (CASSETTE DETECTION, ERASE PREVENTION DETECTION, CrO_2 AUTO)
S15,17	82-304-630-01	Slide switch (TIMER, MEMORY)
S16	87-040-100-11	Counter (MEMORY COUNTER)
S20	82-375-623-01	Slide switch (DIN OUTPUT LEVEL) (H,E,K model only)
⚠	87-034-826-01	AC power cord (H model only)
⚠	87-034-874-01	AC power cord (U model only)
⚠	87-034-877-01	AC power cord (E model only)
⚠	87-034-872-01	AC power cord (K model only)
⚠	87-085-101-01	Cord bushing (U model only)
⚠ F9	87-035-107-01	Fuse, "T" 315mA (E,K model only)
	87-098-011-01	Fuse label, "T" 315mA (E,K model only)
⚠	87-033-161-01	Fuse holder, 1P (E,K model only)
CON-1	82-304-703-01	Connector ass'y, 3P
CON-19	82-328-605-01	Connector ass'y, 3P
CON-21	82-307-650-11	Connector ass'y, 3P
CON-3	82-304-657-11	Connector, ass'y, 4P
CON-6	82-328-608-01	Connector ass'y, 4P
CON-7	82-328-617-01	Connector ass'y, 4P
CON-13	82-304-668-01	Connector ass'y, 4P
CON-18	82-328-603-01	Connector ass'y, 4P
CON-20	82-328-604-01	Connector ass'y, 4P
CON-22	82-307-668-01	Connector ass'y, 5P
CON-12	82-304-669-01	Connector ass'y, 5P
CON-2	82-304-659-11	Connector ass'y, 6P
CON-5	82-328-619-01	Connector ass'y, 6P
CON-11	82-304-670-01	Connector ass'y, 6P
CON-9	82-328-620-01	Connecror ass'y, 8P
CON-8	82-328-609-01	Connector ass'y, 9P
CON-4	82-328-618-01	Connector ass'y, 10P
CON-10	82-328-610-01	Connector ass'y, 12P
		< Resistor >
R3	82-304-738-01	47Ω 10W Cement resistor
		< Capacitor >
⚠ C1	87-019-096-01	0.01μF 250V Line (H model only)

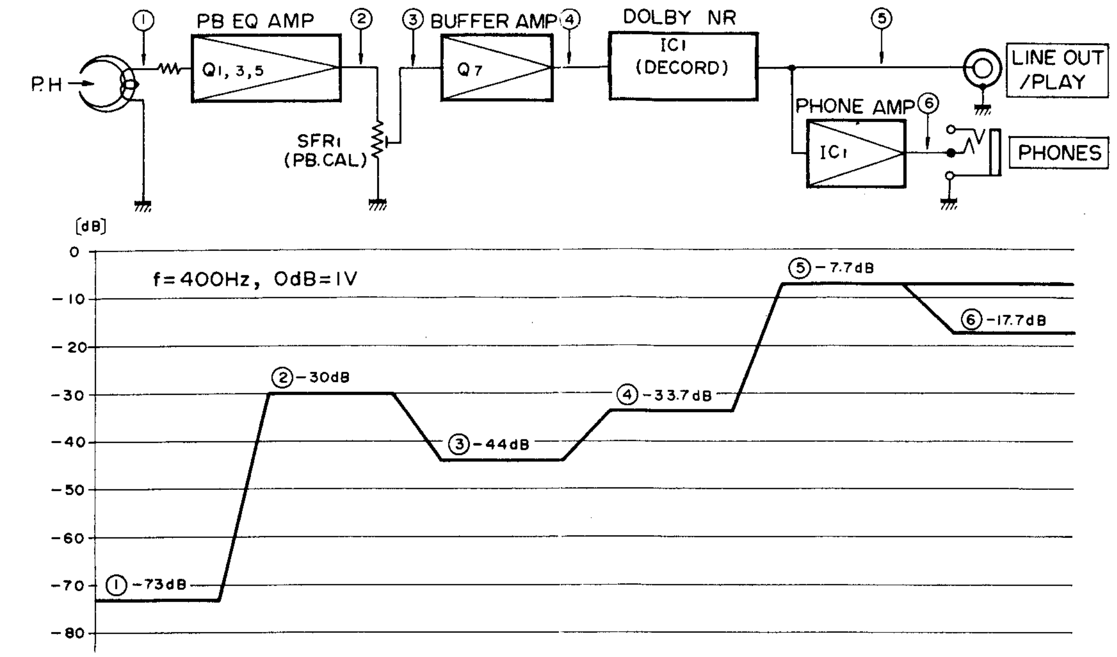
⚠ Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

[RC-100 REMOTE CONTROL SECTION]

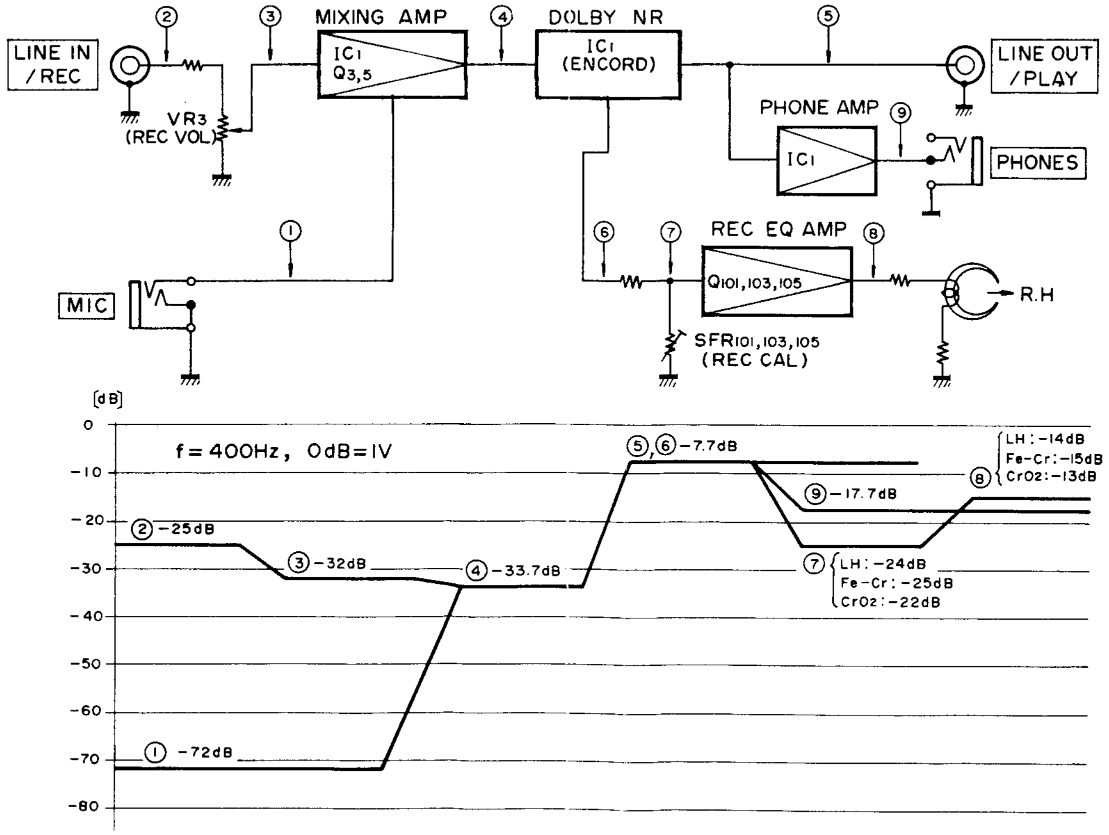
Symbol No.	Part No.	Description
≪REMOTE CONTROL CIRCUIT BOARD SECTION≫		
PCB-A	82-307-639-01	Remote control circuit board
≪TX CIRCUIT BOARD SECTION≫		
PCB-B	82-307-638-11	TX circuit board
IC1	87-027-421-01	IC, TC4028
IC2	87-027-424-01	IC, M58484
Q1~4	89-309-455-61	Transistor, 2SC945L (P,Q)
Q5	89-404-673-01	Transistor, 2SD467 (C)
D1	87-027-363-01	Light emitting diode, GL-520
D2	87-027-097-01	Diode, 1S1555
D3	87-027-356-01	Light emitting diode, GL-9PR-6
X1	87-008-191-01	Ceramic, SFB-455R

LEVEL DIAGRAM

- PLAYBACK


①
PB EQ AMP
②
③
BUFFER AMP
④
DOLBY NR
⑤
P.H
Q1, 3,5
Q7
IC1
(DECORD)
LINE OUT /PLAY
PHONE AMP
⑥
IC1
PHONES
SFR1
(PB.CAL)
[dB]
0
-10
-20
-30
-40
-50
-60
-70
-80
f=400Hz, 0dB=1V
⑤-7.7dB
⑥-17.7dB
②-30dB
④-33.7dB
③-44dB
①-73dB

- RECORD


②
③
MIXING AMP
④
DOLBY NR
⑤
LINE IN /REC
IC1
Q3,5
IC1
(ENCORD)
LINE OUT /PLAY
PHONE AMP
⑨
IC1
PHONES
VR3
(REC VOL)
①
⑥
⑦
REC EQ AMP
⑧
MIC
Q101,103,105
R.H
SFR101,103,105
(REC CAL)
[dB]
0
-10
-20
-30
-40
-50
-60
-70
-80
f=400Hz, 0dB=1V
⑤,⑥-7.7dB
⑧ LH: -14dB
Fe-Cr: -15dB
CrO2: -13dB
⑨-17.7dB
②-25dB
③-32dB
④-33.7dB
⑦ LH: -24dB
Fe-Cr: -25dB
CrO2: -22dB
① -72dB

ON)
EC-

Y)
ʀ)

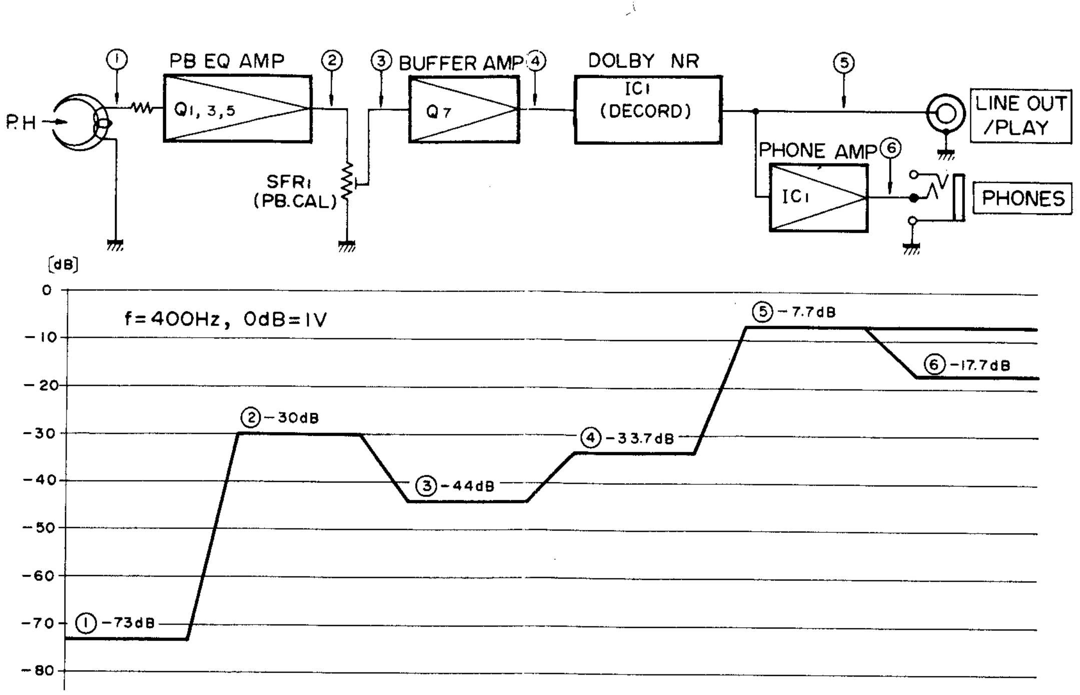
or

[RC-100 REMOTE CONTROL SECTION]

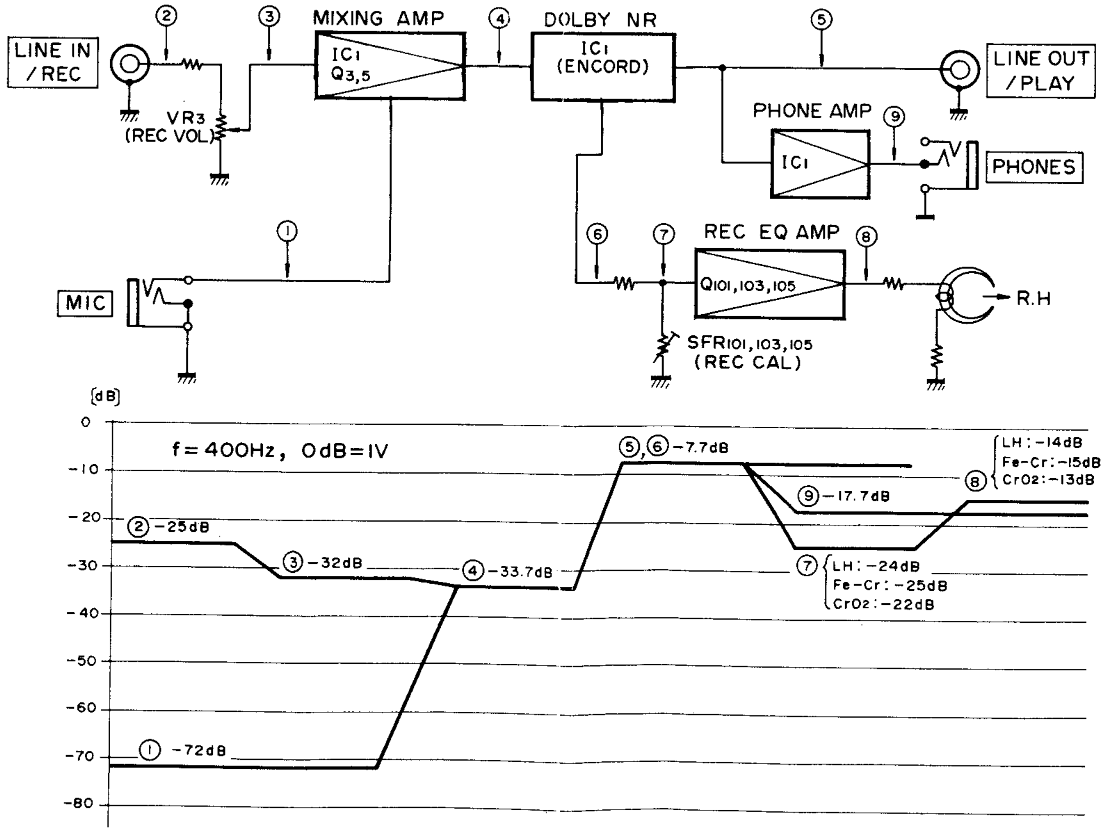
Symbol No.	Part No.	Description
≪REMOTE CONTROL CIRCUIT BOARD SECTION≫		
PCB-A	82-307-639-01	Remote control circuit board
≪TX CIRCUIT BOARD SECTION≫		
PCB-B	82-307-638-11	TX circuit board
IC1	87-027-421-01	IC, TC4028
IC2	87-027-424-01	IC, M58484
Q1~4	89-309-455-61	Transistor, 2SC945L (P,Q)
Q5	89-404-673-01	Transistor, 2SD467 (C)
D1	87-027-363-01	Light emitting diode, GL-520
D2	87-027-097-01	Diode, 1S1555
D3	87-027-356-01	Light emitting diode, GL-9PR-6
X1	87-008-191-01	Ceramic, SFB-455R

LEVEL DIAGRAM

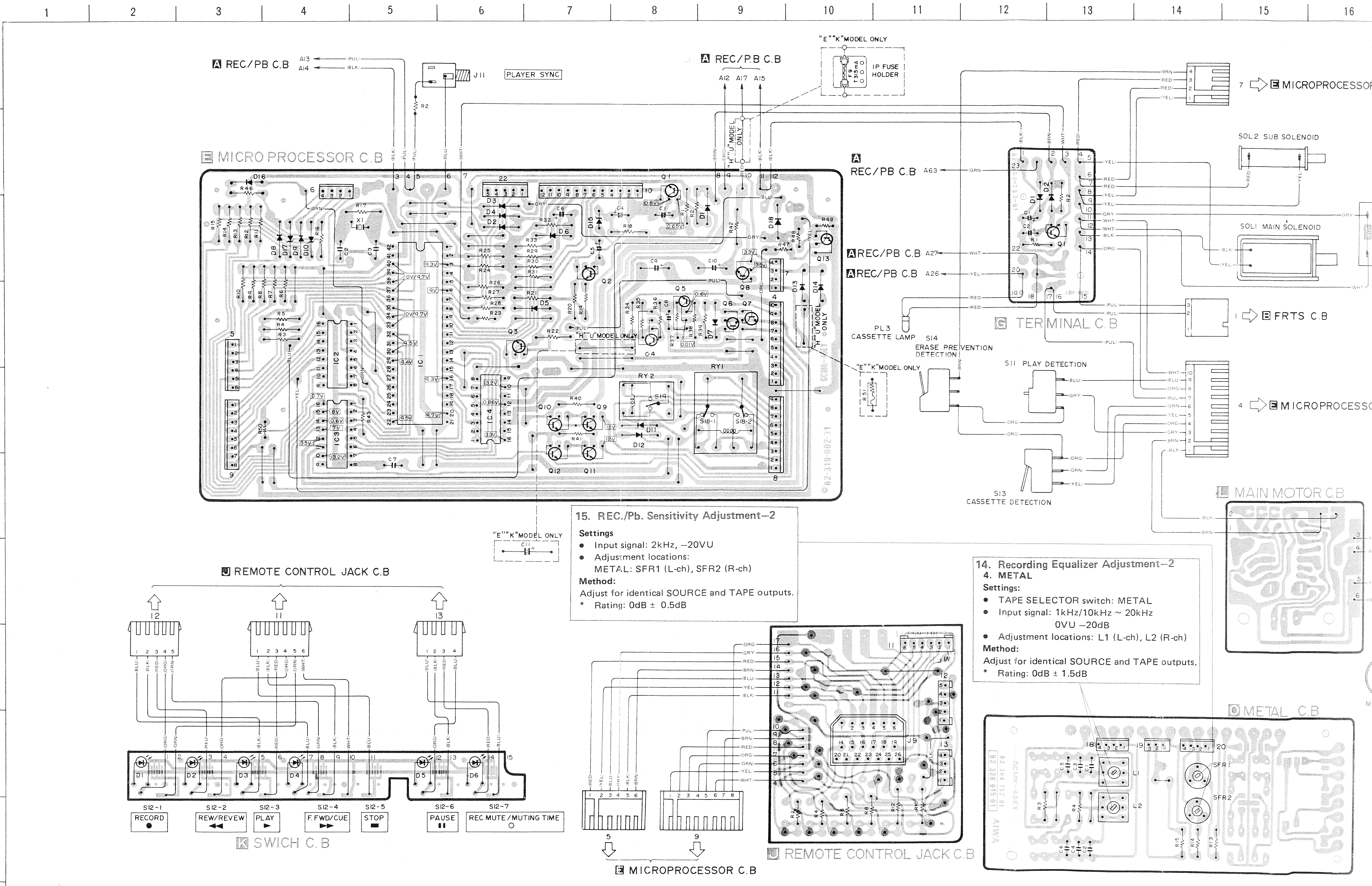
- PLAYBACK


P.H
①
PB EQ AMP
Q1, 3, 5
②
SFR1
(PB.CAL)
③
BUFFER AMP
Q7
④
DOLBY NR
IC1
(DECORD)
⑤
LINE OUT
/PLAY
PHONE AMP
⑥
IC1
PHONES
[dB]
0
-10
-20
-30
-40
-50
-60
-70
-80
f=400Hz, 0dB=1V
① -73dB
② -30dB
③ -44dB
④ -33.7dB
⑤ -7.7dB
⑥ -17.7dB

- RECORD


LINE IN
/REC
②
VR3
(REC VOL)
③
MIXING AMP
IC1
Q3,5
④
DOLBY NR
IC1
(ENCORD)
⑤
LINE OUT
/PLAY
PHONE AMP
⑨
IC1
PHONES
①
MIC
⑥
⑦
REC EQ AMP
Q101,103,105
⑧
R.H
SFR101,103,105
(REC CAL)
[dB]
0
-10
-20
-30
-40
-50
-60
-70
-80
f=400Hz, 0dB=1V
① -72dB
② -25dB
③ -32dB
④ -33.7dB
⑤,⑥ -7.7dB
⑨ -17.7dB
⑧ LH: -14dB
Fe-Cr: -15dB
CrO2: -13dB
⑦ LH: -24dB
Fe-Cr: -25dB
CrO2: -22dB

WIRING—3


1
2
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13
14
15
16
A
B
C
D
E
F
G
H
I
J
A REC/PB C.B
A13
A14
J11
PLAYER SYNC
A REC/P.B C.B
A12 A17 A15
"E""K"MODEL ONLY
IP FUSE HOLDER
F9 T315mA
7 E MICROPROCESSOR
SOL2 SUB SOLENOID
SOL1 MAIN SOLENOID
E MICRO PROCESSOR C.B
"H""U"MODEL ONLY
A REC/PB C.B A63
A REC/PB C.B A27
A REC/PB C.B A26
PL3 CASSETTE LAMP
S14 ERASE PREVENTION DETECTION
"E""K"MODEL ONLY
S11 PLAY DETECTION
G TERMINAL C.B
1 E FRTS C.B
4 E MICROPROCESSOR
S13 CASSETTE DETECTION
L MAIN MOTOR C.B
IC1
IC2
IC3
IC4
RY1
RY2
82-319-602-31
"E""K"MODEL ONLY
J REMOTE CONTROL JACK C.B
I2
I1
I3
S12-1 RECORD ●
S12-2 REW/REVEW ◀◀
S12-3 PLAY ▶
S12-4 F.FWD/CUE ▶▶
S12-5 STOP ■
S12-6 PAUSE ❚❚
S12-7 REC MUTE/MUTING TIME ○
K SWICH C.B
5
9
E MICROPROCESSOR C.B
J REMOTE CONTROL JACK C.B
O METAL C.B
SFR1
SFR2
L1
L2
AIWA

15. REC./Pb. Sensitivity Adjustment—2

Settings

- Input signal: 2kHz, –20VU
- Adjustment locations:
  METAL: SFR1 (L-ch), SFR2 (R-ch)

Method:

Adjust for identical SOURCE and TAPE outputs.

* Rating: 0dB ± 0.5dB

14. Recording Equalizer Adjustment—2

4. METAL

Settings:

- TAPE SELECTOR switch: METAL
- Input signal: 1kHz/10kHz ~ 20kHz
  0VU –20dB
- Adjustment locations: L1 (L-ch), L2 (R-ch)

Method:

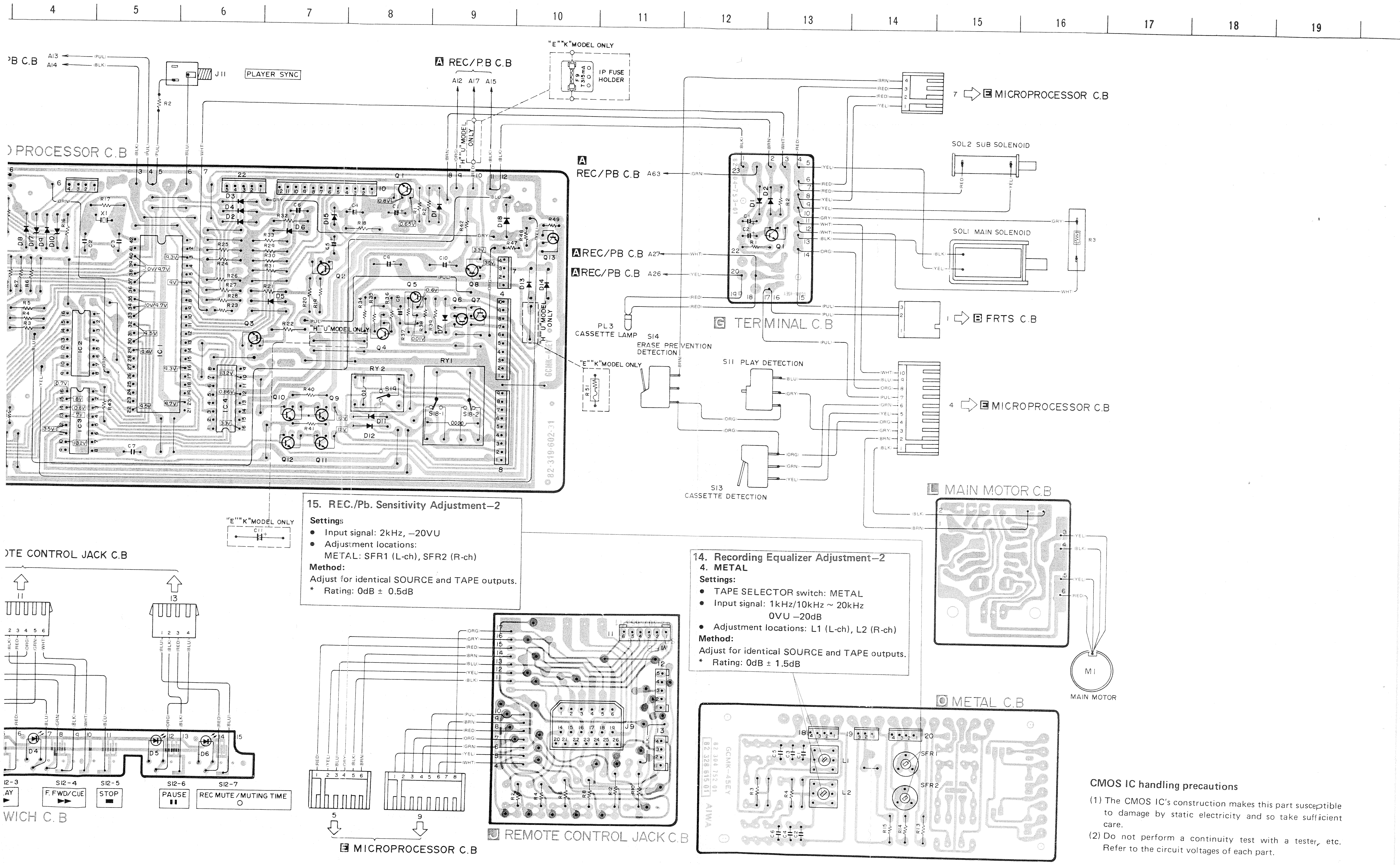
Adjust for identical SOURCE and TAPE outputs.

* Rating: 0dB ± 1.5dB

NOTES

(1) ▨ B(+) Pattern ▨ Component side pattern ▨ Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.


4
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14
15
16
17
18
19
PB C.B
A13
A14
J11
PLAYER SYNC
"E""K"MODEL ONLY
IP FUSE HOLDER
F9 T315mA
A REC/P.B C.B
A12 A17 A15
"H""U" MODEL ONLY
PROCESSOR C.B
7 E MICROPROCESSOR C.B
A REC/PB C.B A63
A REC/PB C.B A27
A REC/PB C.B A26
SOL2 SUB SOLENOID
SOL1 MAIN SOLENOID
R3
IC1
IC2
IC3
IC4
RY1
RY 2
C TERMINAL C.B
1 B FRTS C.B
PL3 CASSETTE LAMP
S14 ERASE PREVENTION DETECTION
"E""K"MODEL ONLY
R51
S11 PLAY DETECTION
4 E MICROPROCESSOR C.B
S13 CASSETTE DETECTION
L MAIN MOTOR C.B
M1
MAIN MOTOR
"E""K"MODEL ONLY
C11
OTE CONTROL JACK C.B
11
13
D4
D5
D6
S12-3
S12-4
S12-5
S12-6
S12-7
AY
F.FWD/CUE
STOP
PAUSE
REC MUTE/MUTING TIME
WICH C.B
5
9
E MICROPROCESSOR C.B
J REMOTE CONTROL JACK C.B
D METAL C.B
L1
L2
SFR1
SFR2
AIWA

15. REC./Pb. Sensitivity Adjustment–2

Settings:

- Input signal: 2kHz, –20VU
- Adjustment locations:
  METAL: SFR1 (L-ch), SFR2 (R-ch)

Method:

Adjust for identical SOURCE and TAPE outputs.

* Rating: 0dB ± 0.5dB

14. Recording Equalizer Adjustment–2

4. METAL

Settings:

- TAPE SELECTOR switch: METAL
- Input signal: 1kHz/10kHz ~ 20kHz
  0VU –20dB
- Adjustment locations: L1 (L-ch), L2 (R-ch)

Method:

Adjust for identical SOURCE and TAPE outputs.

* Rating: 0dB ± 1.5dB

CMOS IC handling precautions

(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.

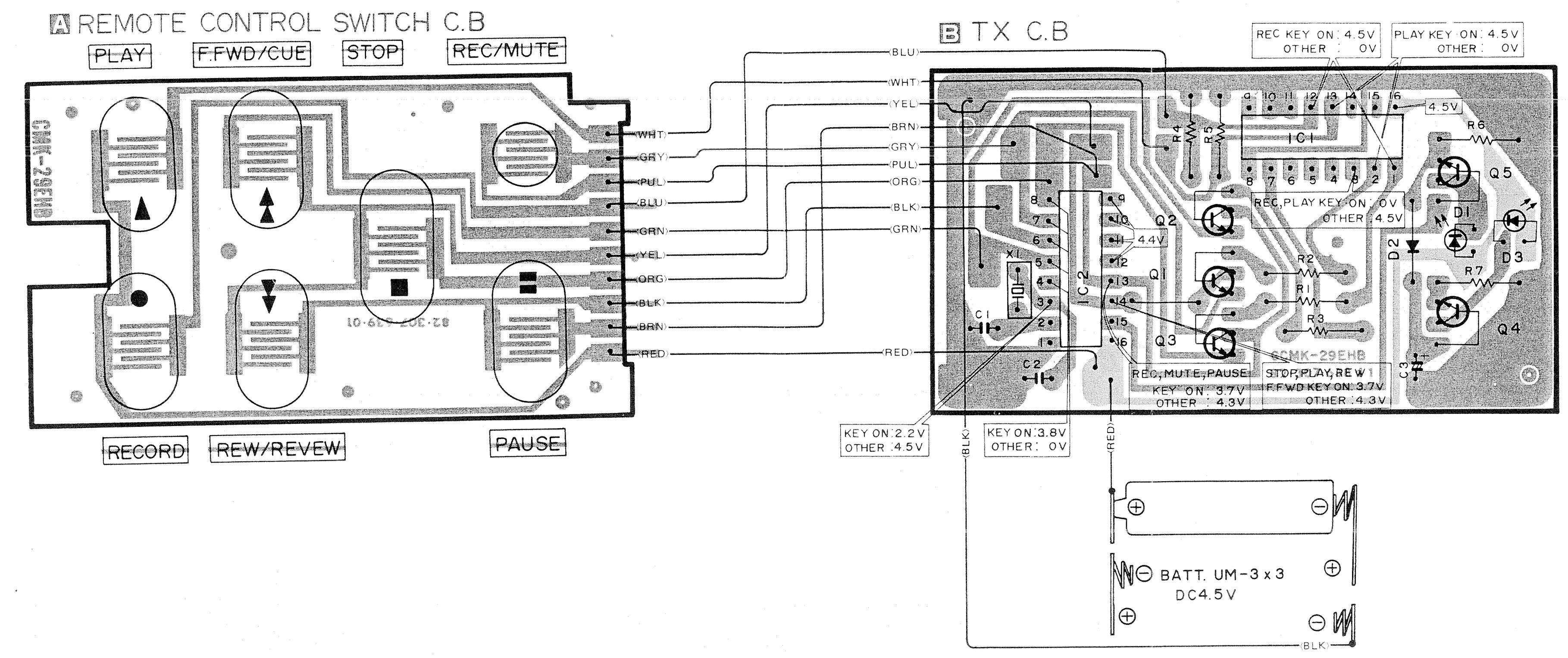
(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

rn ▨ Component side pattern ▨ Others pattern

he reference value measured with a tester (20 K ohms/V DC) when there are no signals.

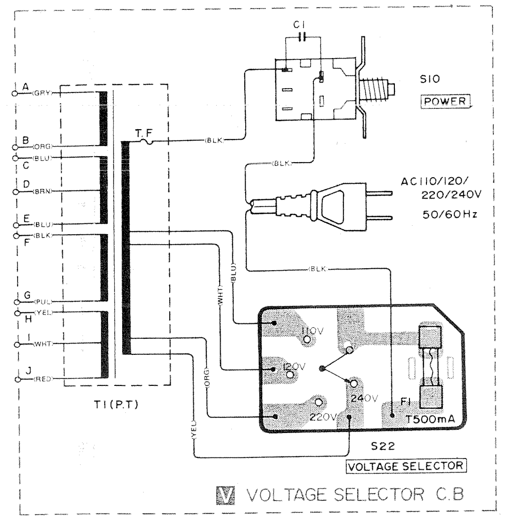
WIRING-4

< REMOTE CONTROL SECTION >

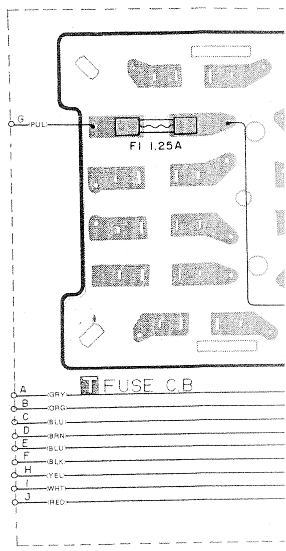

A REMOTE CONTROL SWITCH C.B
PLAY
F.FWD/CUE
STOP
REC/MUTE
RECORD
REW/REVIEW
PAUSE
82-302-139-01
WHT
GRY
PUL
BLU
GRN
YEL
ORG
BLK
BRN
RED
B TX C.B
REC KEY ON : 4.5V OTHER : 0V
PLAY KEY ON : 4.5V OTHER : 0V
4.5V
4.4V
IC1
IC2
Q1
Q2
Q3
Q4
Q5
D1
D2
D3
R1
R2
R3
R4
R5
R6
R7
C1
C2
C3
X1
REC,PLAY KEY ON : 0V OTHER : 4.5V
REC,MUTE,PAUSE KEY ON : 3.7V OTHER : 4.3V
STOP,PLAY,REW ! F.FWD KEY ON : 3.7V OTHER : 4.3V
GCMK-29EHB
KEY ON : 2.2V OTHER : 4.5V
KEY ON : 3.8V OTHER : 0V
BATT. UM-3 x 3 DC4.5V

< POWER SECTION >

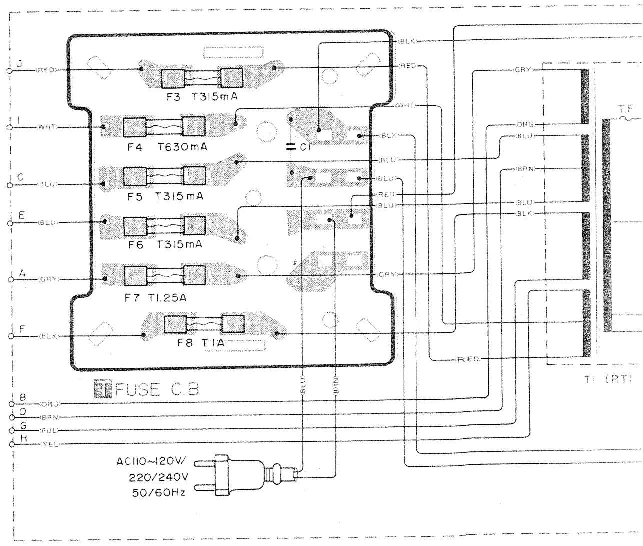
H MODEL


C1
S10
POWER
AC110/120/220/240V 50/60Hz
T.F
T1(P.T)
110V
120V
220V
240V
F1
T500mA
S22
VOLTAGE SELECTOR
V VOLTAGE SELECTOR C.B

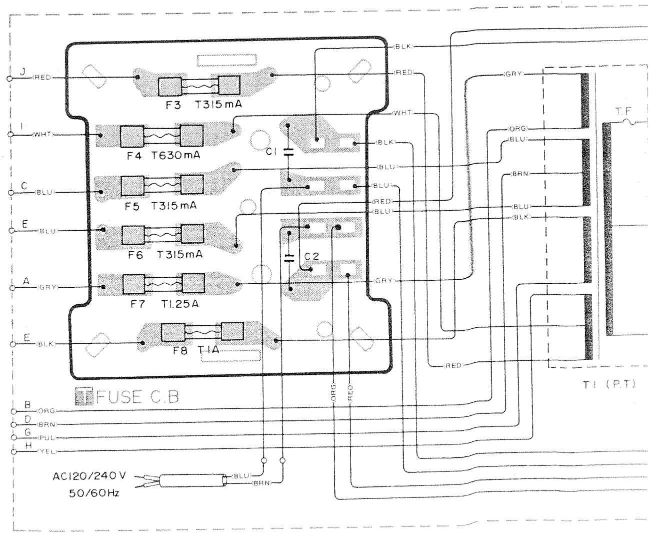
U MODEL


F1 1.25A
F FUSE C.B

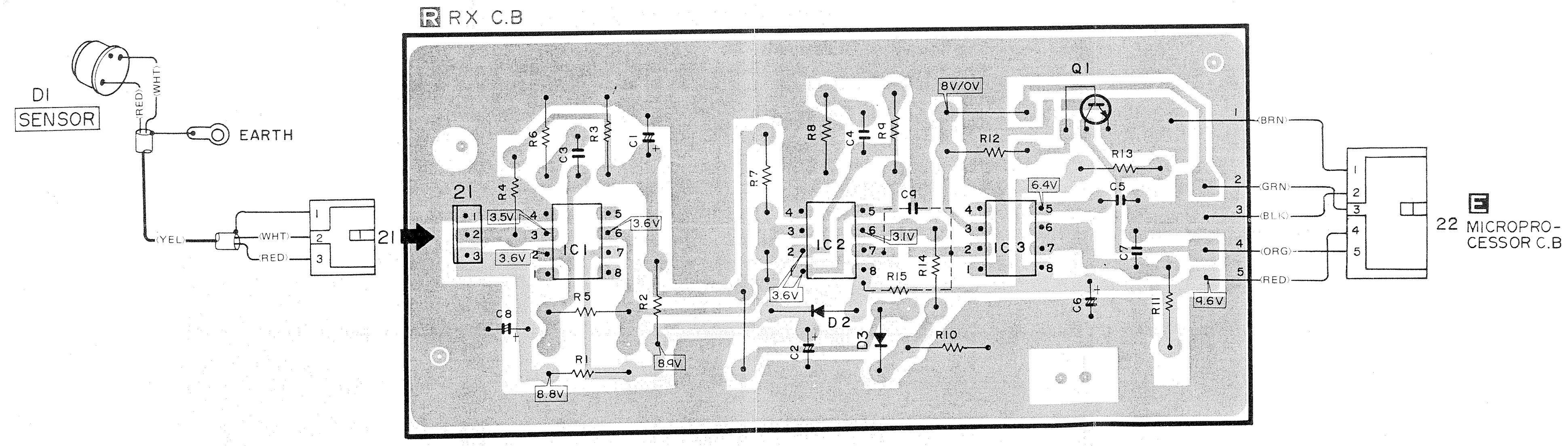
E MODEL


F3 T315mA
F4 T630mA
F5 T315mA
F6 T315mA
F7 T1.25A
F8 T1A
C1
F FUSE C.B
T.F
T1 (PT)
AC110~120V/220/240V 50/60Hz

K MODEL


F3 T315mA
F4 T630mA
F5 T315mA
F6 T315mA
F7 T1.25A
F8 T1A
C1
C2
F FUSE C.B
T.F
T1 (PT)
AC120/240V 50/60Hz

< RECEIVER SECTION >


D1
SENSOR
EARTH
WHT
RED
YEL
R RX C.B
21
IC1
IC2
IC3
Q1
D2
D3
3.5V
3.6V
3.6V
3.1V
3.6V
8V/0V
6.4V
9.6V
8.9V
8.8V
BRN
GRN
BLK
ORG
RED
E
22 MICROPRO-CESSOR C.B

NOTES

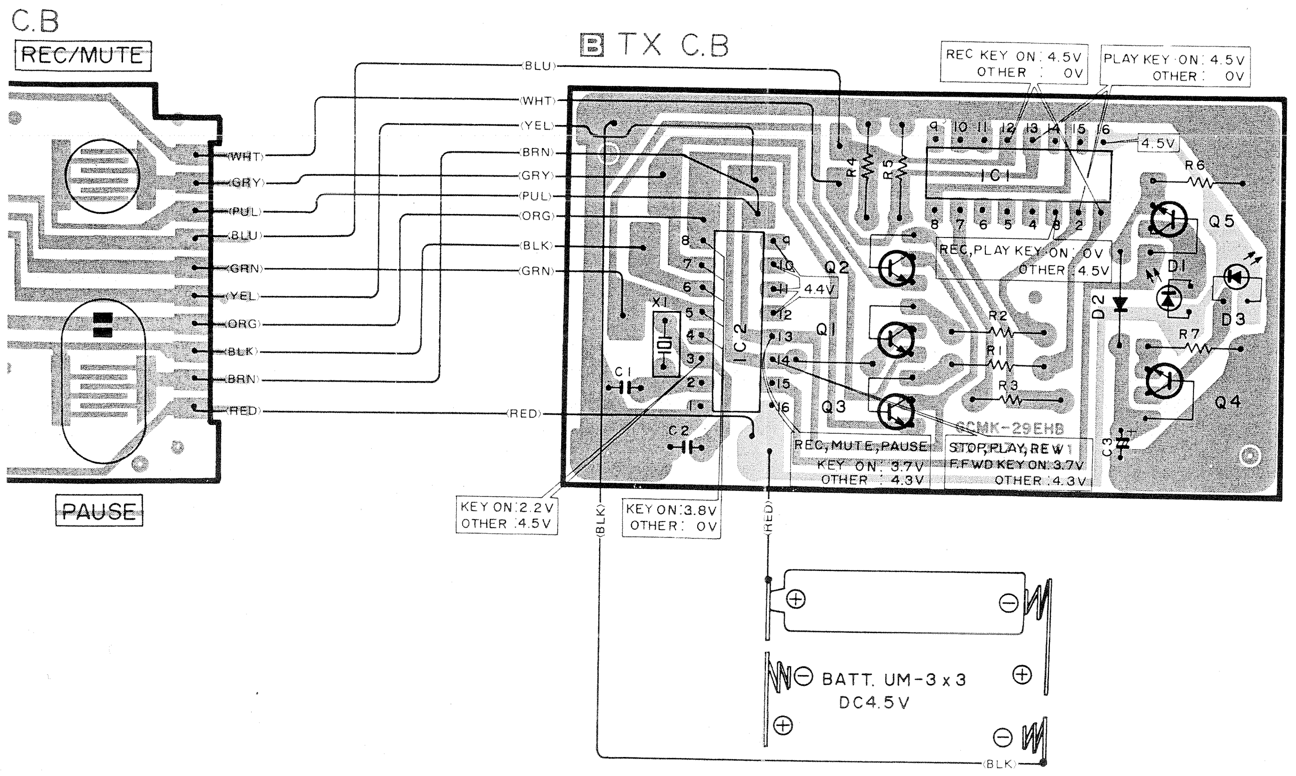
(1) ▨ B(+) Pattern ▨ Others pattern

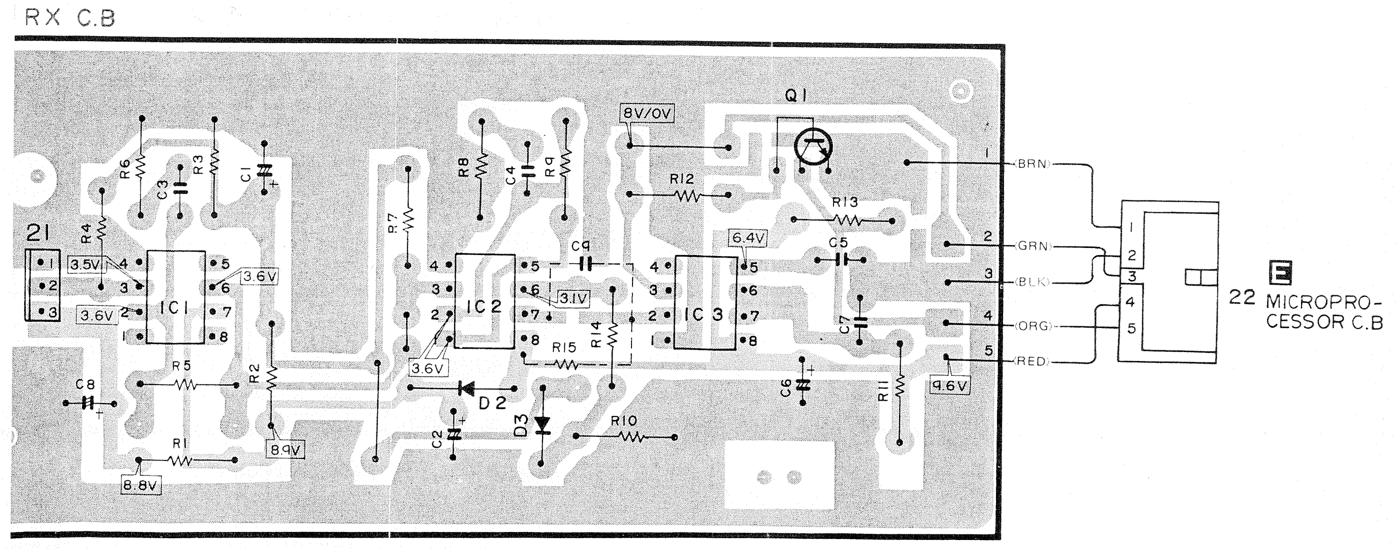
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

CMOS IC handling precautions

(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.

(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.


C.B
REC/MUTE
PAUSE
B TX C.B
WHT GRY PUL BLU GRN YEL ORG BLK BRN RED
REC KEY ON: 4.5V OTHER: 0V
PLAY KEY ON: 4.5V OTHER: 0V
IC1
4.5V
4.4V
REC,PLAY KEY ON: 0V OTHER: 4.5V
Q1 Q2 Q3 Q4 Q5
R1 R2 R3 R4 R5 R6 R7
D1 D2 D3
X1 IC2 C1 C2 C3
6CMK-29EHB
REC,MUTE,PAUSE KEY ON: 3.7V OTHER: 4.3V
STOP,PLAY,REW F.FWD KEY ON: 3.7V OTHER: 4.3V
KEY ON: 2.2V OTHER: 4.5V
KEY ON: 3.8V OTHER: 0V
BATT. UM-3 x 3 DC4.5V


RX C.B
21
Q1
IC1 IC2 IC3
8V/0V
3.5V 3.6V 3.6V 3.1V 6.4V 3.6V 8.9V 8.8V 9.6V
R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15
C1 C2 C3 C4 C5 C6 C7 C8 C9
D2 D3
BRN GRN BLK ORG RED
22 E MICROPROCESSOR C.B

ıthers pattern

value measured with a tester (20 K ohms/V DC) when there are no signals.

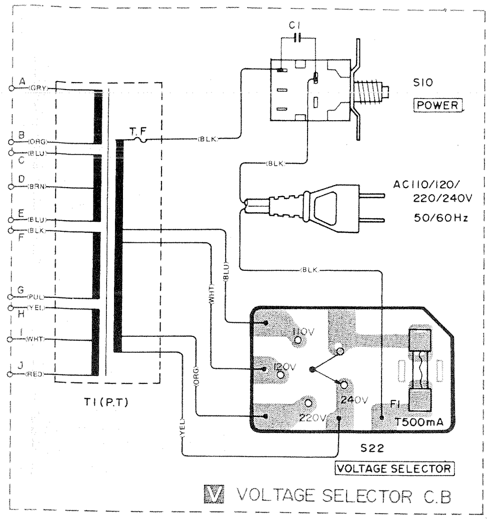
CMOS IC handling precautions

(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.

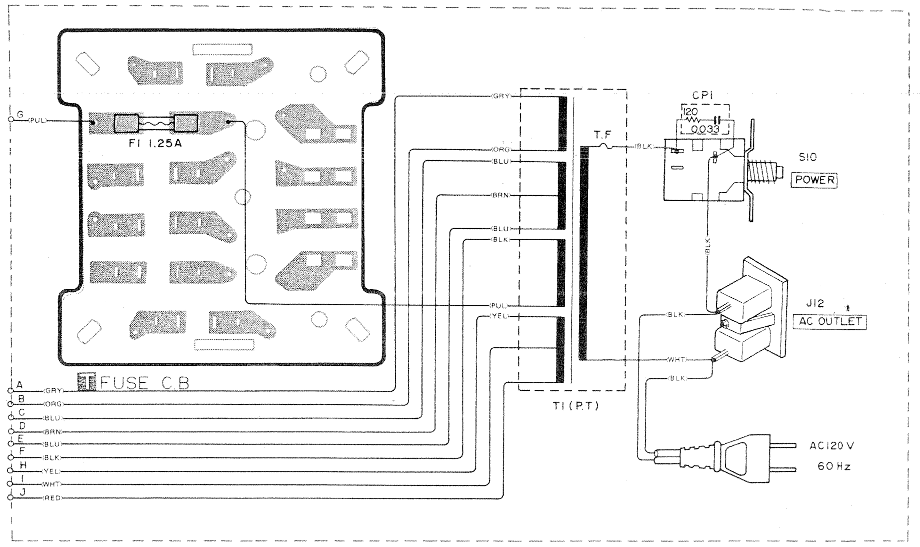
(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

< POWER SECTION >

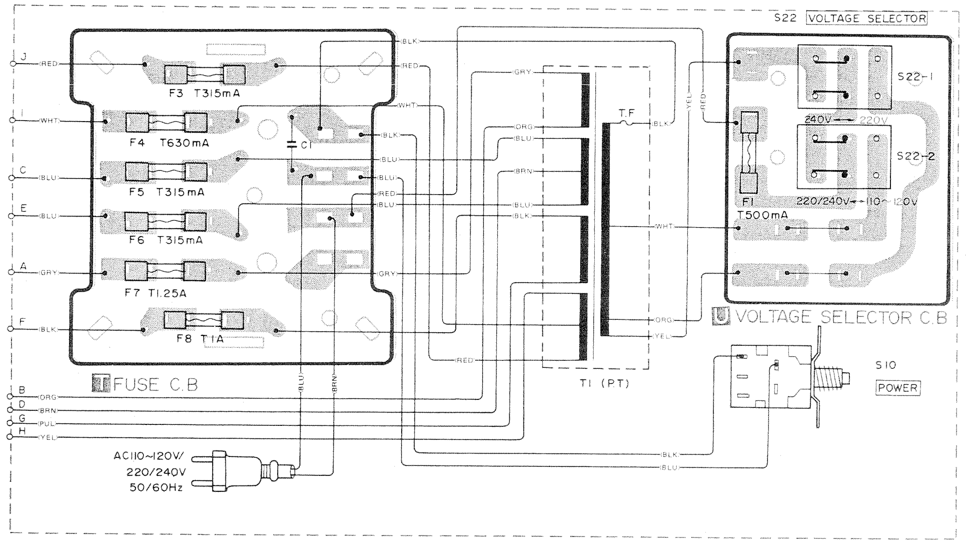
H MODEL


C1
S10 POWER
T.F
AC110/120/220/240V 50/60Hz
T1 (P.T)
110V 120V 220V 240V
F1 T500mA
S22 VOLTAGE SELECTOR
V VOLTAGE SELECTOR C.B

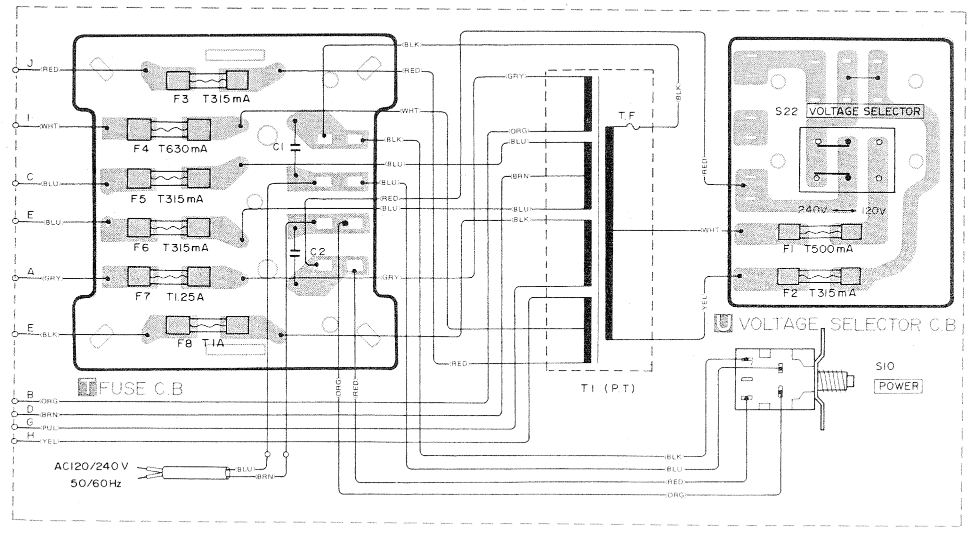
U MODEL


F1 1.25A
FUSE C.B
T.F
T1 (P.T)
CP1
S10 POWER
J12 AC OUTLET
AC120V 60Hz

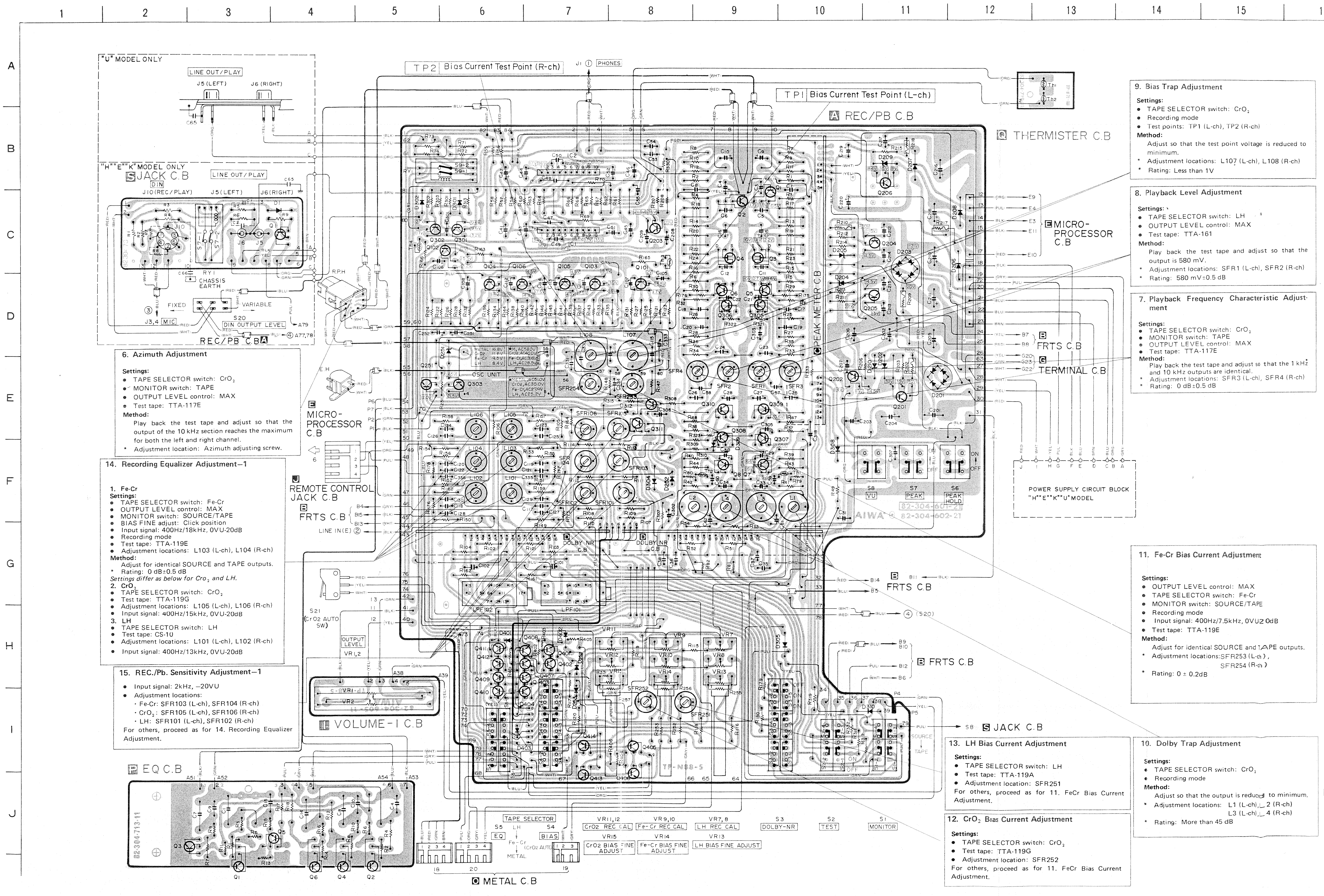
E MODEL


S22 VOLTAGE SELECTOR
F3 T315mA
F4 T630mA
F5 T315mA
F6 T315mA
F7 T1.25A
F8 T1A
C1
FUSE C.B
T.F
T1 (PT)
S22-1 S22-2
240V 220V
F1 T500mA
220/240V ← 110~120V
VOLTAGE SELECTOR C.B
S10 POWER
AC110~120V/220/240V 50/60Hz

K MODEL


F3 T315mA
F4 T630mA
F5 T315mA
F6 T315mA
F7 T1.25A
F8 T1A
C1 C2
FUSE C.B
T.F
T1 (P.T)
S22 VOLTAGE SELECTOR
240V 120V
F1 T500mA
F2 T315mA
VOLTAGE SELECTOR C.B
S10 POWER
AC120/240V 50/60Hz

WIRING–1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14
15
16
A
B
C
D
E
F
G
H
I
J
"U" MODEL ONLY
LINE OUT/PLAY
J5 (LEFT)
J6 (RIGHT)
"H""E""K" MODEL ONLY
S JACK C.B
LINE OUT/PLAY
DIN
J10 (REC/PLAY)
J5 (LEFT)
J6 (RIGHT)
RY1
CHASSIS EARTH
FIXED
VARIABLE
J3,4 MIC
S20
DIN OUTPUT LEVEL
REC/PB C.B A
RPH
E.H
TP2 Bias Current Test Point (R-ch)
J1 ① PHONES
TP1 Bias Current Test Point (L-ch)
A REC/PB C.B
Q THERMISTER C.B
E MICRO-PROCESSOR C.B
B FRTS C.B
G TERMINAL C.B
C PEAK METER C.B
OSC UNIT
D DOLBY NR C.B
LPF102
LPF101
E MICRO-PROCESSOR C.B
J REMOTE CONTROL JACK C.B
B FRTS C.B
LINE IN(E) ②
S21 (CrO2 AUTO SW)
OUTPUT LEVEL
VR1,2
I VOLUME-I C.B
P EQ C.B
S8 VU
S7 PEAK
S6 PEAK HOLD
POWER SUPPLY CIRCUIT BLOCK
"H""E""K""U" MODEL
B FRTS C.B
④ (S20)
B FRTS C.B
S8 S JACK C.B
SOURCE
TAPE
TAPE SELECTOR
S5 EQ
S4 BIAS
LH
Fe-Cr
(CrO2 AUTO)
METAL
VR11,12 CrO2 REC CAL
VR9,10 Fe-Cr REC CAL
VR7,8 LH REC CAL
VR15 CrO2 BIAS FINE ADJUST
VR14 Fe-Cr BIAS FINE ADJUST
VR13 LH BIAS FINE ADJUST
S3 DOLBY-NR
S2 TEST
S1 MONITOR
O METAL C.B
AIWA 82-304-601-21
82-304-602-21
82-304-713-11

6. Azimuth Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- MONITOR switch: TAPE
- OUTPUT LEVEL control: MAX
- Test tape: TTA-117E

Method:

Play back the test tape and adjust so that the output of the 10 kHz section reaches the maximum for both the left and right channel.

* Adjustment location: Azimuth adjusting screw.

14. Recording Equalizer Adjustment–1

1. Fe-Cr

Settings:
- TAPE SELECTOR switch: Fe-Cr
- OUTPUT LEVEL control: MAX
- MONITOR switch: SOURCE/TAPE
- BIAS FINE adjust: Click position
- Input signal: 400Hz/18kHz, 0VU-20dB
- Recording mode
- Test tape: TTA-119E
- Adjustment locations: L103 (L-ch), L104 (R-ch)

Method:

Adjust for identical SOURCE and TAPE outputs.

* Rating: 0 dB±0.5 dB

Settings differ as below for Cro_2 *and LH.*

2. CrO_2
- TAPE SELECTOR switch: CrO_2
- Test tape: TTA-119G
- Adjustment locations: L105 (L-ch), L106 (R-ch)
- Input signal: 400Hz/15kHz, 0VU-20dB

3. LH
- TAPE SELECTOR switch: LH
- Test tape: CS-10
- Adjustment locations: L101 (L-ch), L102 (R-ch)
- Input signal: 400Hz/13kHz, 0VU-20dB

15. REC./Pb. Sensitivity Adjustment–1

- Input signal: 2kHz, –20VU
- Adjustment locations:
  - · Fe-Cr: SFR103 (L-ch), SFR104 (R-ch)
  - · CrO_2: SFR105 (L-ch), SFR106 (R-ch)
  - · LH: SFR101 (L-ch), SFR102 (R-ch)

For others, proceed as for 14. Recording Equalizer Adjustment.

9. Bias Trap Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- Recording mode
- Test points: TP1 (L-ch), TP2 (R-ch)

Method:

Adjust so that the test point voltage is reduced to minimum.

* Adjustment locations: L107 (L-ch), L108 (R-ch)

* Rating: Less than 1V

8. Playback Level Adjustment

Settings:
- TAPE SELECTOR switch: LH
- OUTPUT LEVEL control: MAX
- Test tape: TTA-161

Method:

Play back the test tape and adjust so that the output is 580 mV.

* Adjustment locations: SFR1 (L-ch), SFR2 (R-ch)

* Rating: 580 mV±0.5 dB

7. Playback Frequency Characteristic Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- MONITOR switch: TAPE
- OUTPUT LEVEL control: MAX
- Test tape: TTA-117E

Method:

Play back the test tape and adjust so that the 1 kHz and 10 kHz outputs are identical.

* Adjustment locations: SFR3 (L-ch), SFR4 (R-ch)

* Rating: 0 dB±0.5 dB

11. Fe-Cr Bias Current Adjustment

Settings:
- OUTPUT LEVEL control: MAX
- TAPE SELECTOR switch: Fe-Cr
- MONITOR switch: SOURCE/TAPE
- Recording mode
- Input signal: 400Hz/7.5kHz, 0VU20dB
- Test tape: TTA-119E

Method:

Adjust for identical SOURCE and TAPE outputs.

* Adjustment locations: SFR253 (L-ch),
SFR254 (R-ch)

* Rating: 0 ± 0.2dB

13. LH Bias Current Adjustment

Settings:
- TAPE SELECTOR switch: LH
- Test tape: TTA-119A
- Adjustment location: SFR251

For others, proceed as for 11. FeCr Bias Current Adjustment.

12. CrO_2 Bias Current Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- Test tape: TTA-119G
- Adjustment location: SFR252

For others, proceed as for 11. FeCr Bias Current Adjustment.

10. Dolby Trap Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- Recording mode

Method:

Adjust so that the output is reduced to minimum.

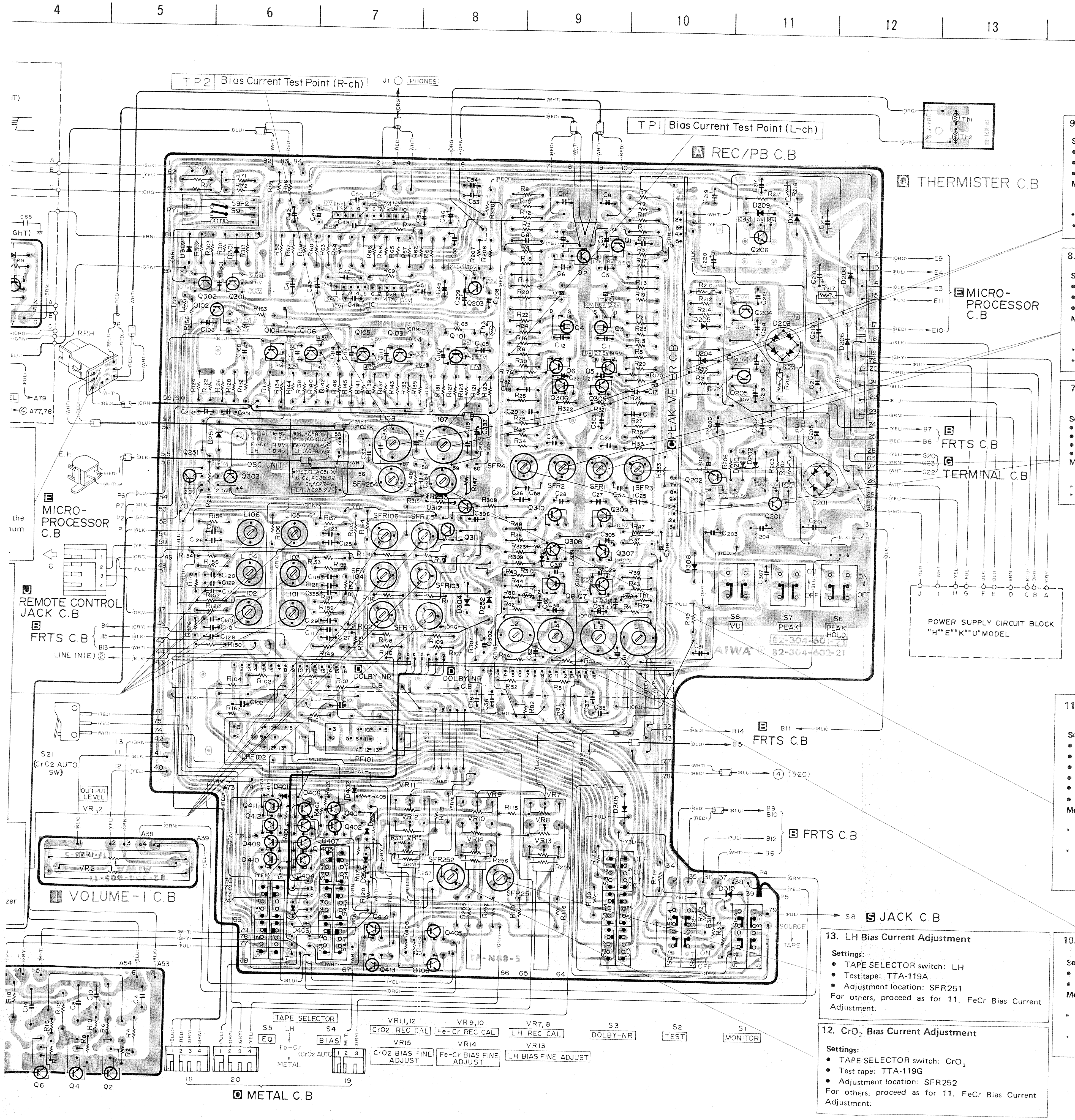
* Adjustment locations: L1 (L-ch), L2 (R-ch)
L3 (L-ch), L4 (R-ch)

* Rating: More than 45 dB

NOT

(1)

(2)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14
15
16
17
18
19
TP2 Bias Current Test Point (R-ch)
J1 ① PHONES
TP1 Bias Current Test Point (L-ch)
A REC/PB C.B
Q THERMISTER C.B
E MICRO-PROCESSOR C.B
B FRTS C.B
G TERMINAL C.B
PEAK METER C.B
OSC UNIT
E MICRO-PROCESSOR C.B
J REMOTE CONTROL JACK C.B
B FRTS C.B
LINE IN(E) ②
D DOLBY NR C.B
D DOLBY NR C.B
POWER SUPPLY CIRCUIT BLOCK "H""E""K""U" MODEL
S8 VU
S7 PEAK
S6 PEAK HOLD
AIWA
82-304-601-21
82-304-602-21
B FRTS C.B
④ (S20)
B FRTS C.B
S8 S JACK C.B
SOURCE
TAPE
S21 (CrO2 AUTO SW)
OUTPUT LEVEL VR1,2
I VOLUME-1 C.B
R.P.H
E.H
TAPE SELECTOR
S5 EQ
LH
Fe-Cr
(CrO2 AUTO)
METAL
S4 BIAS
VR11,12 CrO2 REC CAL
CrO2 BIAS FINE ADJUST
VR9,10 Fe-Cr REC CAL
Fe-Cr BIAS FINE ADJUST
VR7,8 LH REC CAL
LH BIAS FINE ADJUST
S3 DOLBY-NR
S2 TEST
S1 MONITOR
O METAL C.B
Q6
Q4
Q2
TF-N88-5

9. Bias Trap Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- Recording mode
- Test points: TP1 (L-ch), TP2 (R-ch)

Method:

Adjust so that the test point voltage is reduced to minimum.

* Adjustment locations: L107 (L-ch), L108 (R-ch)
* Rating: Less than 1V

8. Playback Level Adjustment

Settings:
- TAPE SELECTOR switch: LH
- OUTPUT LEVEL control: MAX
- Test tape: TTA-161

Method:

Play back the test tape and adjust so that the output is 580 mV.

* Adjustment locations: SFR1 (L-ch), SFR2 (R-ch)
* Rating: 580 mV±0.5 dB

7. Playback Frequency Characteristic Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- MONITOR switch: TAPE
- OUTPUT LEVEL control: MAX
- Test tape: TTA-117E

Method:

Play back the test tape and adjust so that the 1 kHz and 10 kHz outputs are identical.

* Adjustment locations: SFR3 (L-ch), SFR4 (R-ch)
* Rating: 0 dB±0.5 dB

11. Fe-Cr Bias Current Adjustment

Settings:
- OUTPUT LEVEL control: MAX
- TAPE SELECTOR switch: Fe-Cr
- MONITOR switch: SOURCE/TAPE
- Recording mode
- Input signal: 400Hz/7.5kHz, 0VU-20dB
- Test tape: TTA-119E

Method:

Adjust for identical SOURCE and TAPE outputs.

* Adjustment locations: SFR253 (L-ch),
SFR254 (R-ch)
* Rating: 0 ± 0.2dB

13. LH Bias Current Adjustment

Settings:
- TAPE SELECTOR switch: LH
- Test tape: TTA-119A
- Adjustment location: SFR251

For others, proceed as for 11. FeCr Bias Current Adjustment.

12. CrO_2 Bias Current Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- Test tape: TTA-119G
- Adjustment location: SFR252

For others, proceed as for 11. FeCr Bias Current Adjustment.

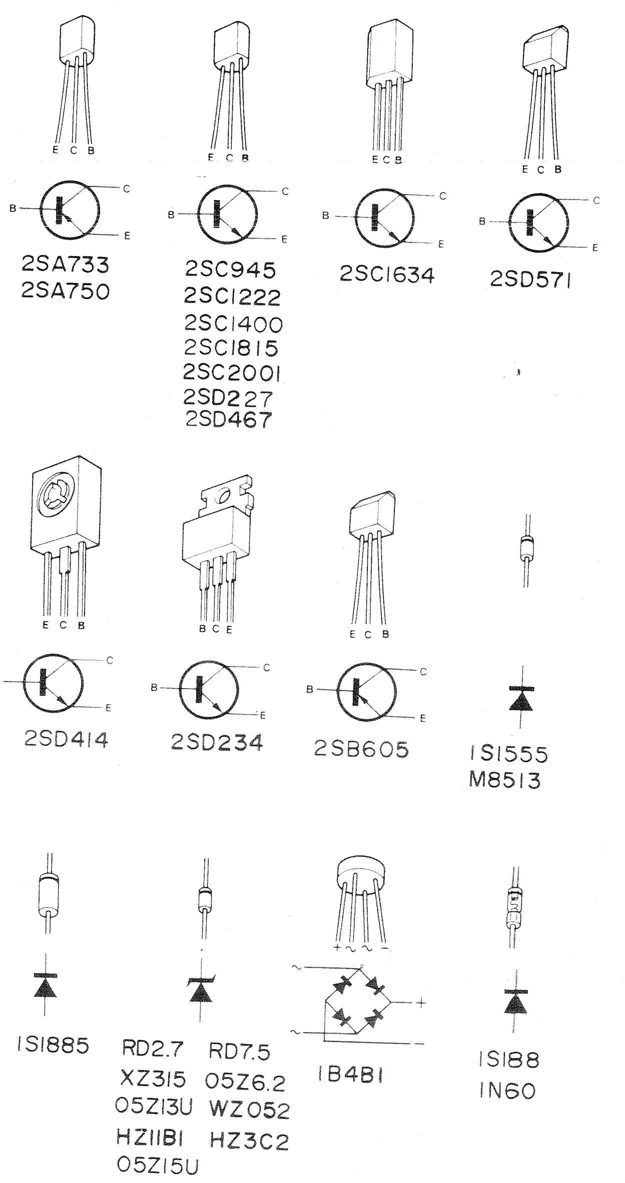
10. Dolby Trap Adjustment

Settings:
- TAPE SELECTOR switch: CrO_2
- Recording mode

Method:

Adjust so that the output is reduced to minimum.

* Adjustment locations: L1 (L-ch), L2 (R-ch)
L3 (L-ch), L4 (R-ch)
* Rating: More than 45 dB

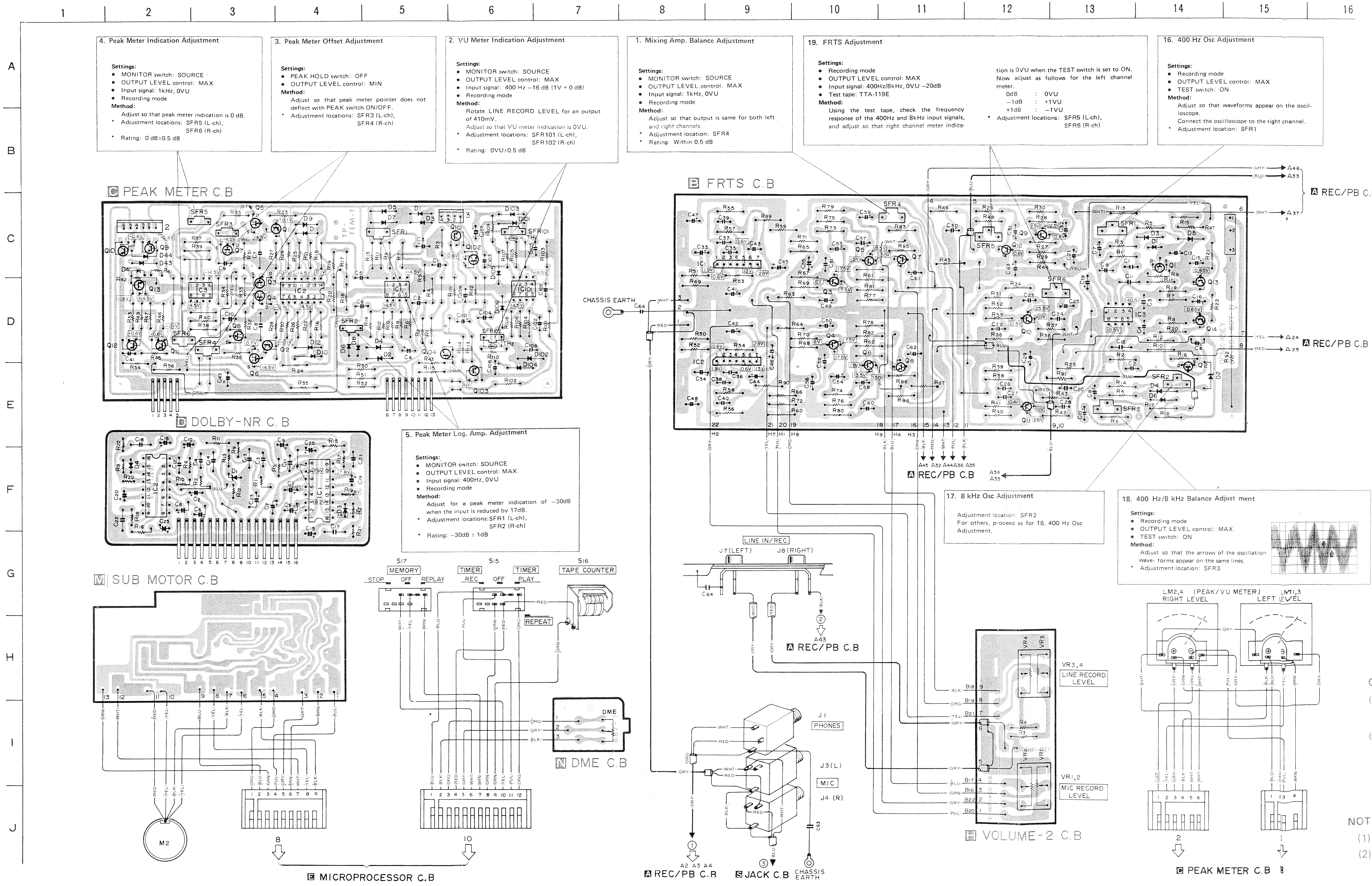

E C B
B C E
2SA733
2SA750
2SC945
2SC1222
2SC1400
2SC1815
2SC2001
2SD227
2SD467
2SC1634
2SD571
2SD414
2SD234
2SB605
1S1555
M8513
1S1885
RD2.7
XZ315
05Z13U
HZ11B1
05Z15U
RD7.5
05Z6.2
WZ052
HZ3C2
1B4B1
1S188
IN60

NOTES

(1) ▨ B(+) Pattern ▨ B(−) Pattern ▨ Other's pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

WIRING–2


PEAK METER C.B
DOLBY-NR C.B
SUB MOTOR C.B
FRTS C.B
CHASSIS EARTH
REC/PB C.B
S17
MEMORY
STOP
OFF
REPLAY
S15
TIMER
REC
TIMER
PLAY
S16
TAPE COUNTER
REPEAT
DME
DME C.B
LINE IN/REC
J7 (LEFT)
J8 (RIGHT)
J1
PHONES
J3 (L)
MIC
J4 (R)
JACK C.B
VR3,4
LINE RECORD LEVEL
VR1,2
MIC RECORD LEVEL
VOLUME-2 C.B
LM2,4 (PEAK/VU METER)
RIGHT LEVEL
LM1,3
LEFT LEVEL
PEAK METER C.B
M2
MICROPROCESSOR C.B
A46
A33
A37
A24
A25
A45 A32 A44 A36 A35
A34
A35
A43
A2 A3 A4

4. Peak Meter Indication Adjustment

Settings:
- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 1kHz, 0VU
- Recording mode

Method:

Adjust so that peak meter indication is 0 dB.

* Adjustment locations: SFR5 (L-ch),
SFR6 (R-ch)

* Rating: 0 dB±0.5 dB

3. Peak Meter Offset Adjustment

Settings:
- PEAK HOLD switch: OFF
- OUTPUT LEVEL control: MIN

Method:

Adjust so that peak meter pointer does not deflect with PEAK switch ON/OFF.

* Adjustment locations: SFR3 (L-ch),
SFR4 (R-ch)

2. VU Meter Indication Adjustment

Settings:
- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 400 Hz –16 dB (1V = 0 dB)
- Recording mode

Method:

Rotate LINE RECORD LEVEL for an output of 410mV.

Adjust so that VU meter indication is 0VU.

* Adjustment locations: SFR101 (L-ch),
SFR102 (R-ch)

* Rating: 0VU±0.5 dB

1. Mixing Amp. Balance Adjustment

Settings:
- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 1kHz, 0VU
- Recording mode

Method:

Adjust so that output is same for both left and right channels.

* Adjustment location: SFR4

* Rating: Within 0.5 dB

19. FRTS Adjustment

Settings:
- Recording mode
- OUTPUT LEVEL control: MAX
- Input signal: 400Hz/8kHz, 0VU –20dB
- Test tape: TTA-119E

Method:

Using the test tape, check the frequency response of the 400Hz and 8kHz input signals, and adjust so that right channel meter indication is 0VU when the TEST switch is set to ON. Now adjust as follows for the left channel meter.

0dB : 0VU
–1dB : +1VU
+1dB : –1VU

* Adjustment locations: SFR5 (L-ch),
SFR6 (R-ch)

16. 400 Hz Osc Adjustment

Settings:
- Recording mode
- OUTPUT LEVEL control: MAX
- TEST switch: ON

Method:

Adjust so that waveforms appear on the oscilloscope.

Connect the oscilloscope to the right channel.

* Adjustment location: SFR1

5. Peak Meter Log. Amp. Adjustment

Settings:
- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 400Hz, 0VU
- Recording mode

Method:

Adjust for a peak meter indication of –30dB when the input is reduced by 17dB.

* Adjustment locations: SFR1 (L-ch),
SFR2 (R-ch)

* Rating: –30dB ± 1dB

17. 8 kHz Osc Adjustment

Adjustment location: SFR2

For others, proceed as for 16. 400 Hz Osc Adjustment.

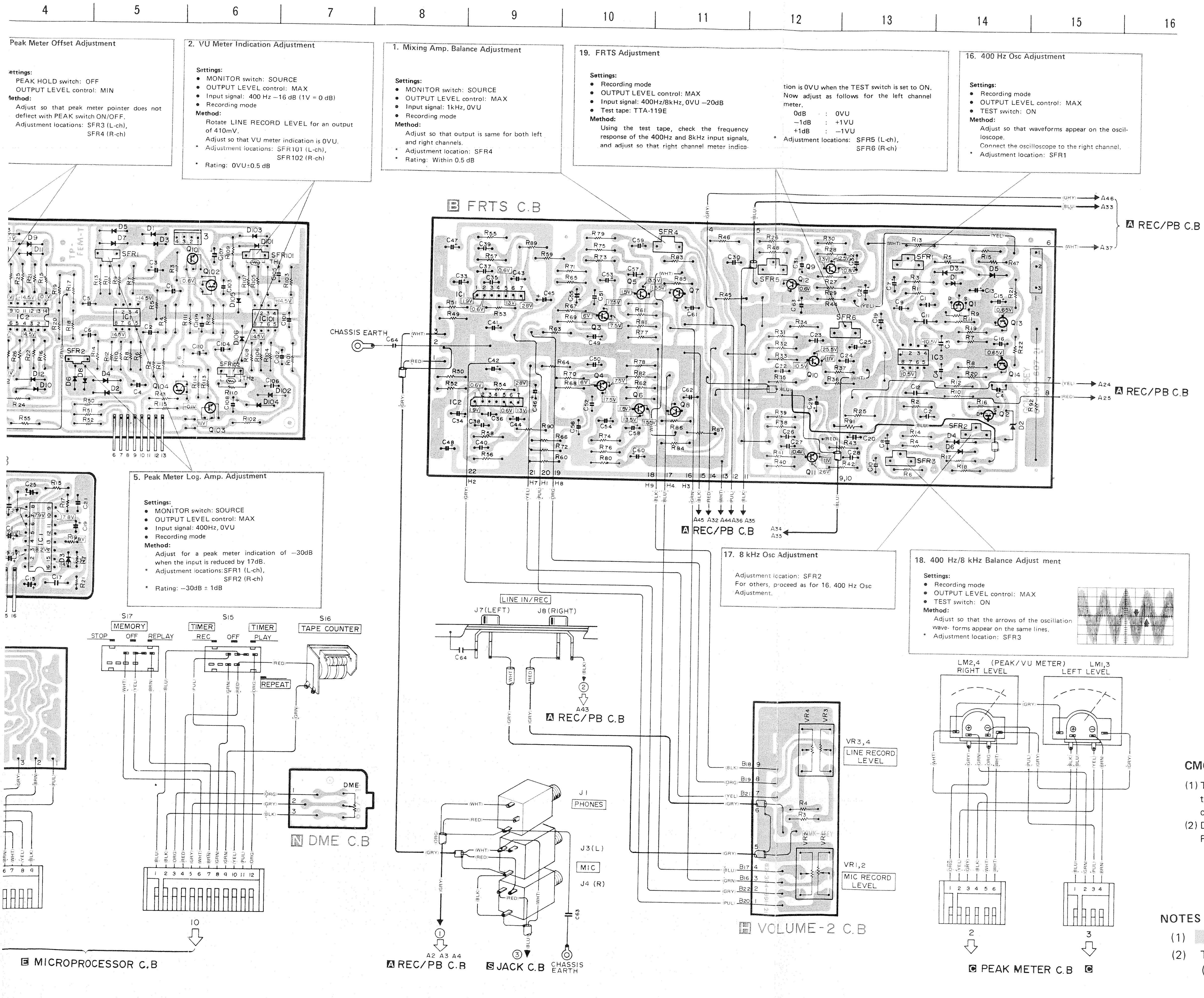
18. 400 Hz/8 kHz Balance Adjust ment

Settings:
- Recording mode
- OUTPUT LEVEL control: MAX
- TEST switch: ON

Method:

Adjust so that the arrows of the oscillation wave- forms appear on the same lines.

* Adjustment location: SFR3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16
B FRTS C.B
A REC/PB C.B
CHASSIS EARTH
A45 A32 A44 A36 A35
A34
A35
A46
A33
A37
A24
A25
SFR1
SFR2
SFR3
SFR4
SFR5
SFR6
SFR101
SFR102
IC1
IC2
IC3
IC101
S17
MEMORY
STOP OFF REPLAY
S15
TIMER
REC OFF PLAY
TIMER
S16
TAPE COUNTER
REPEAT
LINE IN/REC
J7 (LEFT)
J8 (RIGHT)
A43
A REC/PB C.B
J1
PHONES
J3 (L)
MIC
J4 (R)
N DME C.B
DME
VR3,4
LINE RECORD LEVEL
VR1,2
MIC RECORD LEVEL
H VOLUME-2 C.B
LM2,4 (PEAK/VU METER)
RIGHT LEVEL
LM1,3
LEFT LEVEL
10
E MICROPROCESSOR C.B
A2 A3 A4
A REC/PB C.B
S JACK C.B
CHASSIS EARTH
2
3
C PEAK METER C.B C

Peak Meter Offset Adjustment

ettings:

PEAK HOLD switch: OFF

OUTPUT LEVEL control: MIN

lethod:

Adjust so that peak meter pointer does not deflect with PEAK switch ON/OFF.

Adjustment locations: SFR3 (L-ch),
SFR4 (R-ch)

2. VU Meter Indication Adjustment

Settings:

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 400 Hz −16 dB (1V = 0 dB)
- Recording mode

Method:

Rotate LINE RECORD LEVEL for an output of 410mV.

Adjust so that VU meter indication is 0VU.

* Adjustment locations: SFR101 (L-ch),
SFR102 (R-ch)

* Rating: 0VU±0.5 dB

1. Mixing Amp. Balance Adjustment

Settings:

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 1kHz, 0VU
- Recording mode

Method:

Adjust so that output is same for both left and right channels.

* Adjustment location: SFR4

* Rating: Within 0.5 dB

19. FRTS Adjustment

Settings:

- Recording mode
- OUTPUT LEVEL control: MAX
- Input signal: 400Hz/8kHz, 0VU −20dB
- Test tape: TTA-119E

Method:

Using the test tape, check the frequency response of the 400Hz and 8kHz input signals, and adjust so that right channel meter indication is 0VU when the TEST switch is set to ON. Now adjust as follows for the left channel meter.

0dB	:	0VU
−1dB	:	+1VU
+1dB	:	−1VU

* Adjustment locations: SFR5 (L-ch),
SFR6 (R-ch)

16. 400 Hz Osc Adjustment

Settings:

- Recording mode
- OUTPUT LEVEL control: MAX
- TEST switch: ON

Method:

Adjust so that waveforms appear on the oscilloscope.

Connect the oscilloscope to the right channel.

* Adjustment location: SFR1

5. Peak Meter Log. Amp. Adjustment

Settings:

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 400Hz, 0VU
- Recording mode

Method:

Adjust for a peak meter indication of −30dB when the input is reduced by 17dB.

* Adjustment locations: SFR1 (L-ch),
SFR2 (R-ch)

* Rating: −30dB ± 1dB

17. 8 kHz Osc Adjustment

Adjustment location: SFR2

For others, proceed as for 16. 400 Hz Osc Adjustment.

18. 400 Hz/8 kHz Balance Adjust ment

Settings:

- Recording mode
- OUTPUT LEVEL control: MAX
- TEST switch: ON

Method:

Adjust so that the arrows of the oscillation wave- forms appear on the same lines.

* Adjustment location: SFR3

CMOS IC handling precautions

(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.

(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

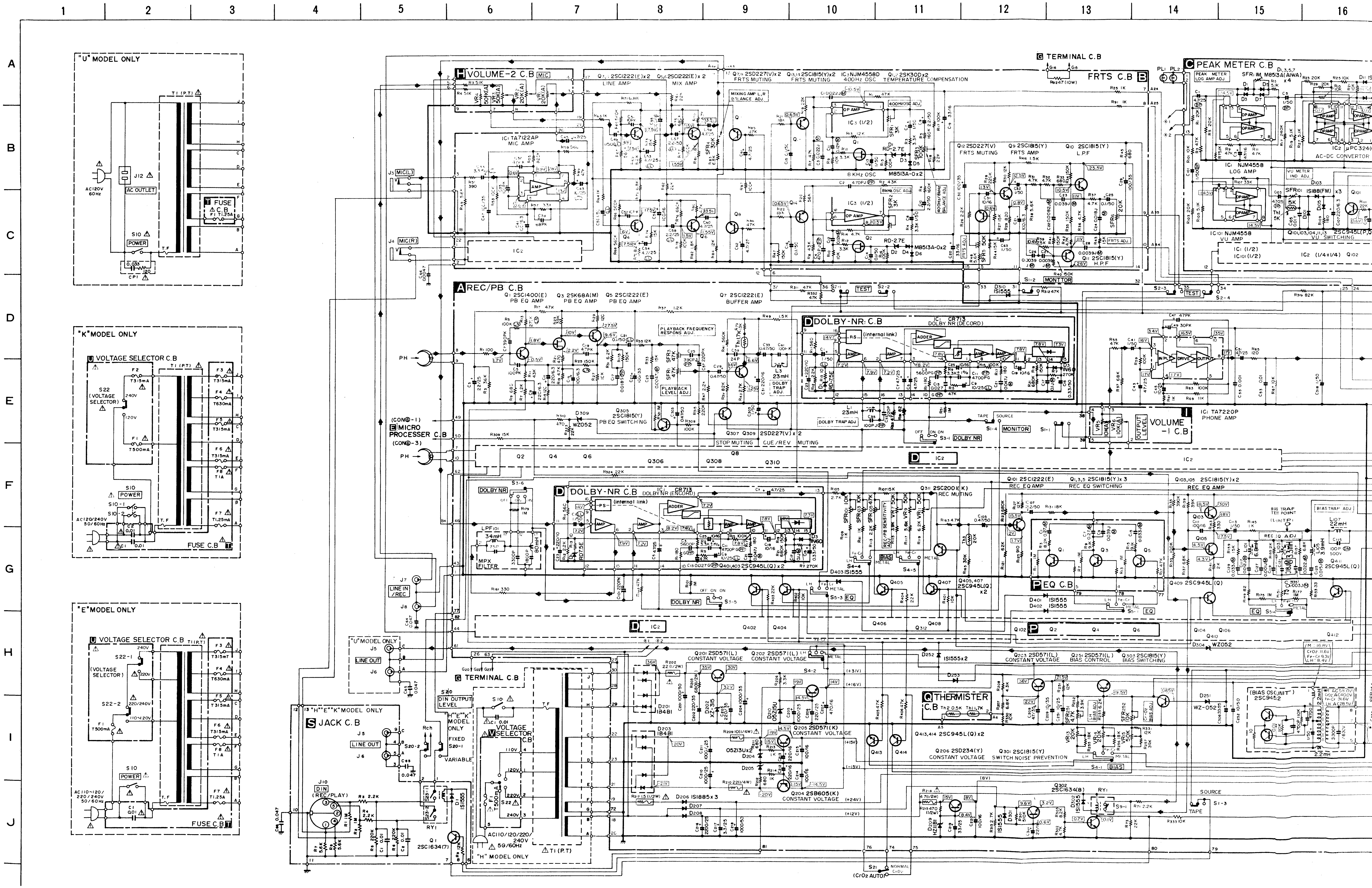
NOTES

(1) ▨ B(+) Pattern ▨ B(−) Pattern ▨ Others pattern

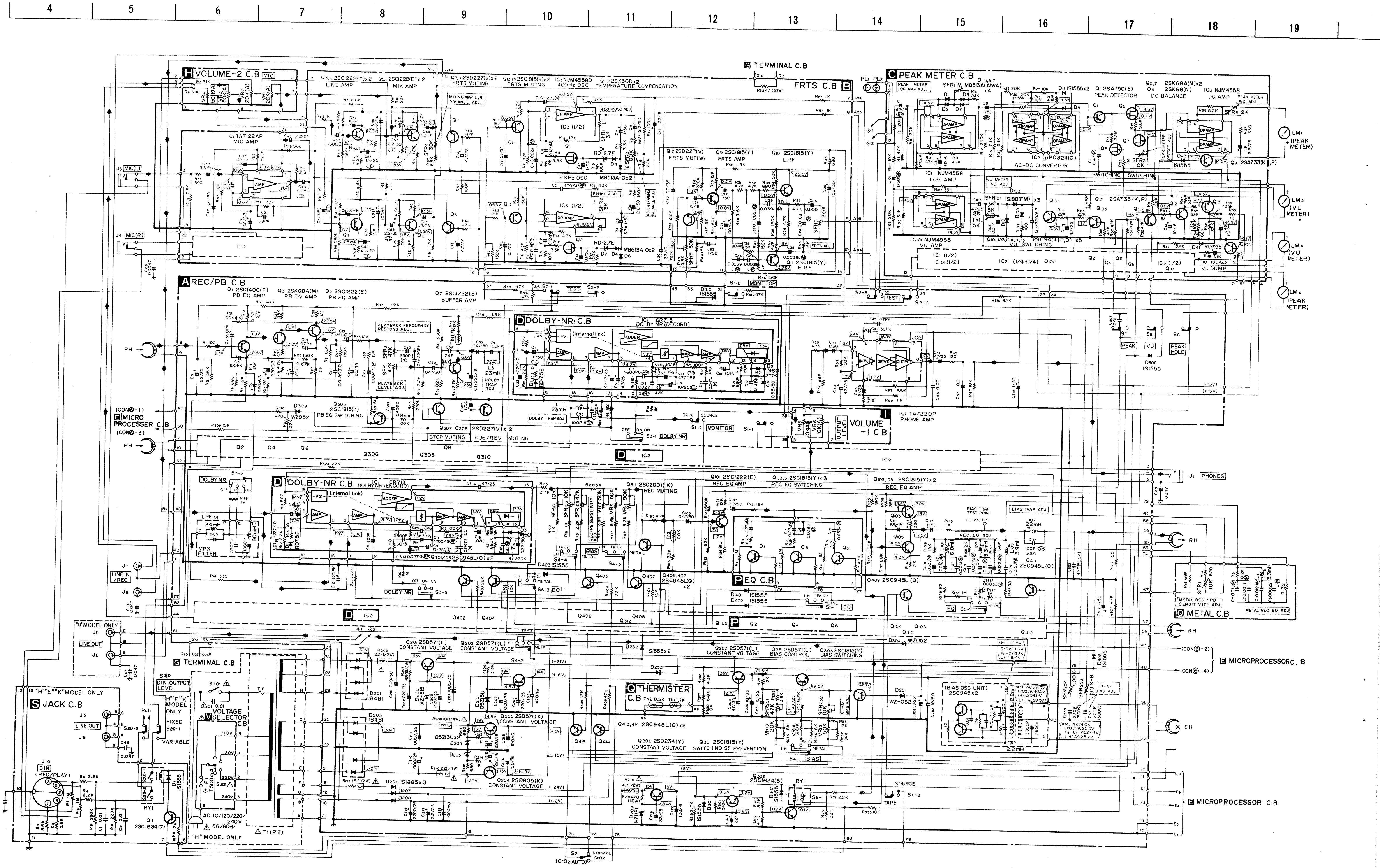
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

AIWA

SCHEMATIC DIAGRAM -1



"U" MODEL ONLY
AC OUTLET
FUSE C.B
POWER
AC120V 60Hz
"K" MODEL ONLY
VOLTAGE SELECTOR C.B
FUSE C.B
AC120/240V 50/60Hz
"E" MODEL ONLY
VOLTAGE SELECTOR C.B
AC110~120/220/240V 50/60Hz
FUSE C.B
VOLUME-2 C.B
IC1 TA7122AP MIC AMP
MIC(L)
MIC(R)
LINE AMP
MIX AMP
FRTS MUTING
400Hz OSC
TEMPERATURE COMPENSATION
8 KHz OSC
FRTS C.B
G TERMINAL C.B
PEAK METER C.B
LOG AMP
VU AMP
AC-DC CONVERTOR
VU SWITCHING
REC/PB C.B
PB EQ AMP
BUFFER AMP
PLAYBACK FREQUENCY RESPONS ADJ.
PLAYBACK LEVEL ADJ
DOLBY TRAP ADJ
DOLBY-NR C.B
DOLBY NR (DECORD)
DOLBY NR (ENCORD)
PB EQ SWITCHING
STOP MUTING
CUE/REV
MUTING
MICRO PROCESSER C.B
MONITOR
DOLBY NR
VOLUME-1 C.B
OUTPUT LEVEL
IC1 TA7220P PHONE AMP
PH
MPX FILTER
LINE IN/REC
REC EQ AMP
REC EQ SWITCHING
REC MUTING
BIAS
EQ C.B
EQ
CONSTANT VOLTAGE
BIAS CONTROL
BIAS SWITCHING
THERMISTER C.B
SWITCH NOISE PREVENTION
BIAS OSC UNIT
LINE OUT
JACK C.B
DIN (REC/PLAY)
DIN OUTPUT LEVEL
FIXED
VARIABLE
VOLTAGE SELECTOR C.B
AC110/120/220/240V 50/60Hz
"H" MODEL ONLY
SOURCE
TAPE
NORMAL
(CrO2 AUTO)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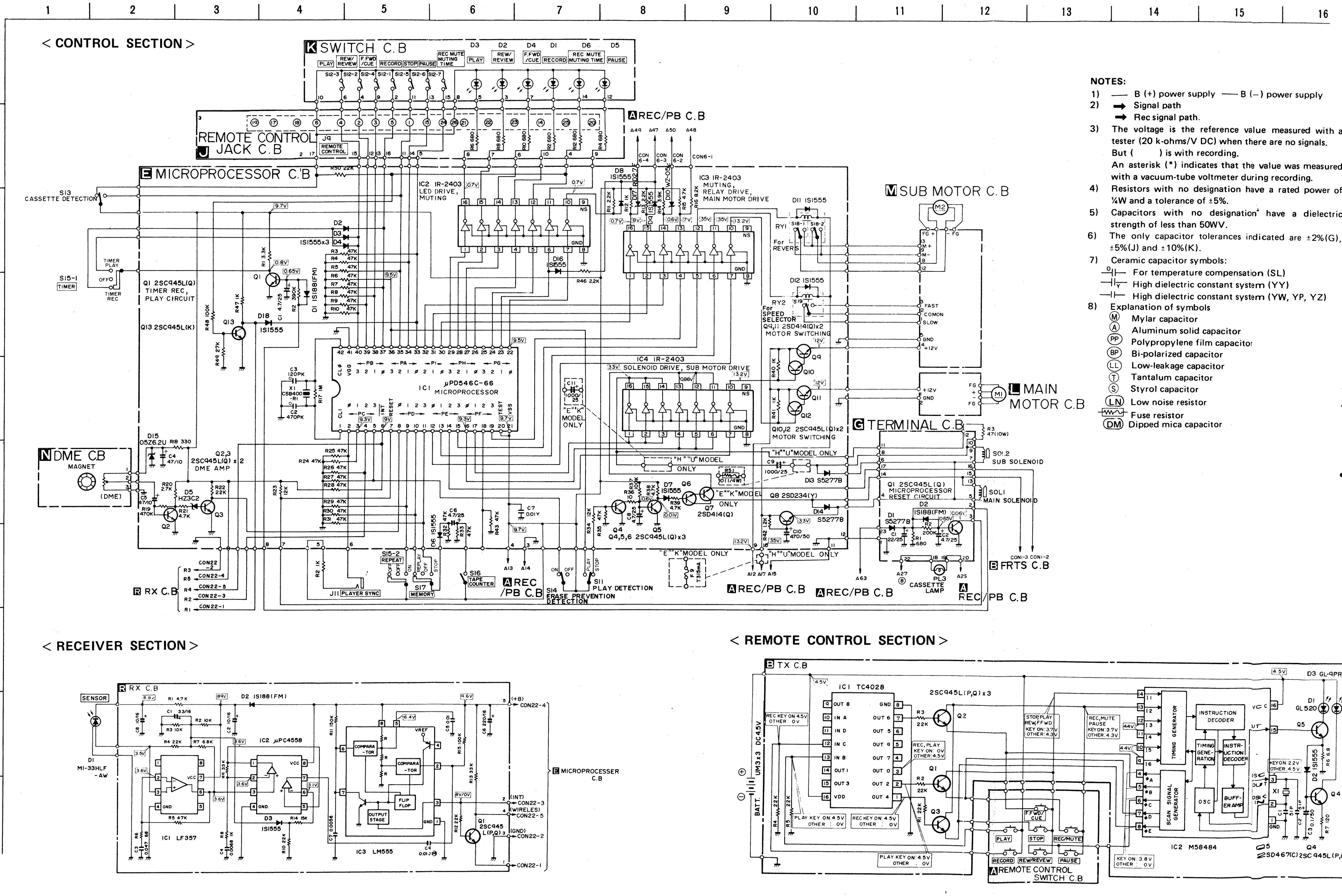
19
H VOLUME-2 C.B MIC
IC1 TA7122AP MIC AMP
J3 MIC(L)
J4 MIC(R)
Q5,6 2SC1222(E)x2 LINE AMP
Q5,6 2SC1222(E)x2 MIX AMP
Q7,8 2SD227(V)x2 FRTS MUTING
Q13,14 2SC1815(Y)x2 FRTS MUTING
IC3 NJM4558D 400Hz OSC
Q1,2 2SK30Dx2 TEMPERATURE COMPENSATION
MIXING AMP L,R BALANCE ADJ
8KHz OSC M8513A-Ox2
G TERMINAL C.B
FRTS C.B B
Q12 2SD227(V) FRTS MUTING
Q9 2SC1815(Y) FRTS AMP
Q10 2SC1815(Y) L.P.F
Q11 2SC1815(Y) H.P.F
C PEAK METER C.B
PEAK METER LOG AMP ADJ
IC1 NJM4558 LOG AMP
IC2 μPC324(C) AC-DC CONVERTOR
Q1 2SA750(E) PEAK DETECTOR
Q5,7 2SK68A(N)x2
Q3 2SK68(N) DC BALANCE
IC3 NJM4558 DC AMP
Q9 2SA733(K,P)
IC101 NJM4558 VU AMP
Q101,103,104,111,113 2SC945L(P,Q)x5 VU SWITCHING
Q12 2SA733(K,P)
VU DUMP
LM1 (PEAK METER)
LM3 (VU METER)
LM4 (VU METER)
LM2 (PEAK METER)
A REC/PB C.B
Q1 2SC1400(E) PB EQ AMP
Q3 2SK68A(M) PB EQ AMP
Q5 2SC1222(E) PB EQ AMP
Q7 2SC1222(E) BUFFER AMP
PLAYBACK FREQUENCY RESPONS ADJ.
PLAYBACK LEVEL ADJ.
D DOLBY-NR C.B
IC1 CR713 DOLBY NR (DECORD)
DOLBY TRAP ADJ
Q305 2SC1815(Y) PB EQ SWITCHING
Q307 Q309 2SD227(V)x2
STOP MUTING CUE/REV MUTING
E MICRO PROCESSOR C.B
PH
TEST
MONITOR
DOLBY NR
I VOLUME-1 C.B
OUTPUT LEVEL
IC1 TA7220P PHONE AMP
PEAK
VU
PEAK HOLD
D308 1S1555
J1 PHONES
D DOLBY-NR C.B
IC1 CR713 DOLBY NR (ENCORD)
LPF101 34mH MPX FILTER
Q311 2SC2001(K) REC MUTING
Q101 2SC1222(E) REC EQ AMP
Q1,3,5 2SC1815(Y)x3 REC EQ SWITCHING
Q103,105 2SC1815(Y)x2 REC EQ AMP
BIAS TRAP TEST POINT (L-ch)TP1
BIAS TRAP ADJ
REC EQ ADJ
REC/PB SENSITIVITY ADJ
P EQ C.B
Q401,403 2SC945L(Q)x2
Q405,407 2SC945L(Q)x2
Q409 2SC945L(Q)
Q411 2SC945L(Q)
D401 1S1555
D402 1S1555
D403 1S1555
EQ
METAL
J7 LINE IN /REC
J8
RH
O METAL C.B
METAL REC / PB SENSITIVITY ADJ
METAL REC. EQ ADJ
"U" MODEL ONLY
J5
LINE OUT
J6
Q201 2SD571(L) CONSTANT VOLTAGE
Q202 2SD571(L) CONSTANT VOLTAGE
D252 1S1555x2
Q203 2SD571(L) CONSTANT VOLTAGE
Q251 2SD571(L) BIAS CONTROL
Q303 2SC1815(Y) BIAS SWITCHING
(CON⑥-2)
(CON⑥-4)
E MICROPROCESSOR C.B
G TERMINAL C.B
DIN OUTPUT LEVEL
"H""E""K" MODEL ONLY
FIXED
VARIABLE
S20-1
S20-2
VOLTAGE SELECTOR C.B
110V
120V
220V
240V
T.F
T1 (P.T)
AC110/120/220/240V 50/60Hz
"H" MODEL ONLY
D201 1B4B1
D203 1B4B1
05Z13ux2
XZ-315
Q205 2SD571(K) CONSTANT VOLTAGE
Q204 2SB605(K) CONSTANT VOLTAGE
D206 1S1885x3
Q THERMISTER C.B
Th2 0.5K
Th1 1.7K
Q413,414 2SC945L(Q)x2
Q206 2SD234(Y) CONSTANT VOLTAGE
Q301 2SC1815(Y) SWITCH NOISE PREVENTION
BIAS
Q302 2SC1634(8)
RY1
SOURCE
TAPE
(BIAS OSC UNIT) 2SC945x2
BIAS ADJ
EH
E MICROPROCESSOR C.B
S JACK C.B
13 "H""E""K" MODEL ONLY
J10 DIN (REC/PLAY)
Q1 2SC1634(7)
S21 NORMAL CrO2
(CrO2 AUTO)

SCHEMATIC DIAGRAM–2


< CONTROL SECTION >
K SWITCH C.B
PLAY
REW/REVIEW
F.FWD/CUE
RECORD
STOP
PAUSE
REC MUTE MUTING TIME
J REMOTE CONTROL JACK C.B
A REC/PB C.B
E MICROPROCESSOR C.B
S13 CASSETTE DETECTION
S15-1 TIMER
TIMER PLAY
OFF
TIMER REC
Q1 2SC945L(Q) TIMER REC, PLAY CIRCUIT
Q13 2SC945L(K)
IC2 IR-2403 LED DRIVE, MUTING
IC3 IR-2403 MUTING, RELAY DRIVE, MAIN MOTOR DRIVE
IC1 μPD546C-66 MICROPROCESSOR
IC4 IR-2403 SOLENOID DRIVE, SUB MOTOR DRIVE
M SUB MOTOR C.B
RY1 For REVERS
RY2 For SPEED SELECTOR
Q9,11 2SD414(Q)x2 MOTOR SWITCHING
Q10,12 2SC945L(Q)x2 MOTOR SWITCHING
L MAIN MOTOR C.B
G TERMINAL C.B
SUB SOLENOID
MAIN SOLENOID
Q1 2SC945L(Q) MICROPROCESSOR RESET CIRCUIT
N DME C.B
MAGNET
(DME)
Q2,3 2SC945L(Q) x 2 DME AMP
Q4,5,6 2SC945L(Q)x3
Q7 2SD414(Q)
Q8 2SD234(Y)
"E""K" MODEL ONLY
"H""U" MODEL ONLY
R RX C.B
J11 PLAYER SYNC
S15-2 REPEAT
S17 MEMORY
S16 TAPE COUNTER
S14 ERASE PREVENTION DETECTION
S11 PLAY DETECTION
B FRTS C.B
PL3 CASSETTE LAMP
< RECEIVER SECTION >
SENSOR
D1 MI-33HLF-AW
IC1 LF357
IC2 μPC4558
IC3 LM555
Q1 2SC945 L(P,Q)
E MICROPROCESSER C.B
< REMOTE CONTROL SECTION >
B TX C.B
BATT. UM3x3 DC4.5V
IC1 TC4028
2SC945L(P,Q)x3
IC2 M58484
TIMING GENERATOR
INSTRUCTION DECODER
SCAN SIGNAL GENERATOR
OSC
BUFF-ERAMP
A REMOTE CONTROL SWITCH C.B
D3 GL-9PR
D1 GL520
Q4, Q5 2SD467(C) 2SC945L(P,Q)

NOTES:

1) —— B (+) power supply —— B (–) power supply

2) ➡ Signal path

➡ Rec signal path.

3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
But ( ) is with recording.
An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

4) Resistors with no designation have a rated power of ¼W and a tolerance of ±5%.

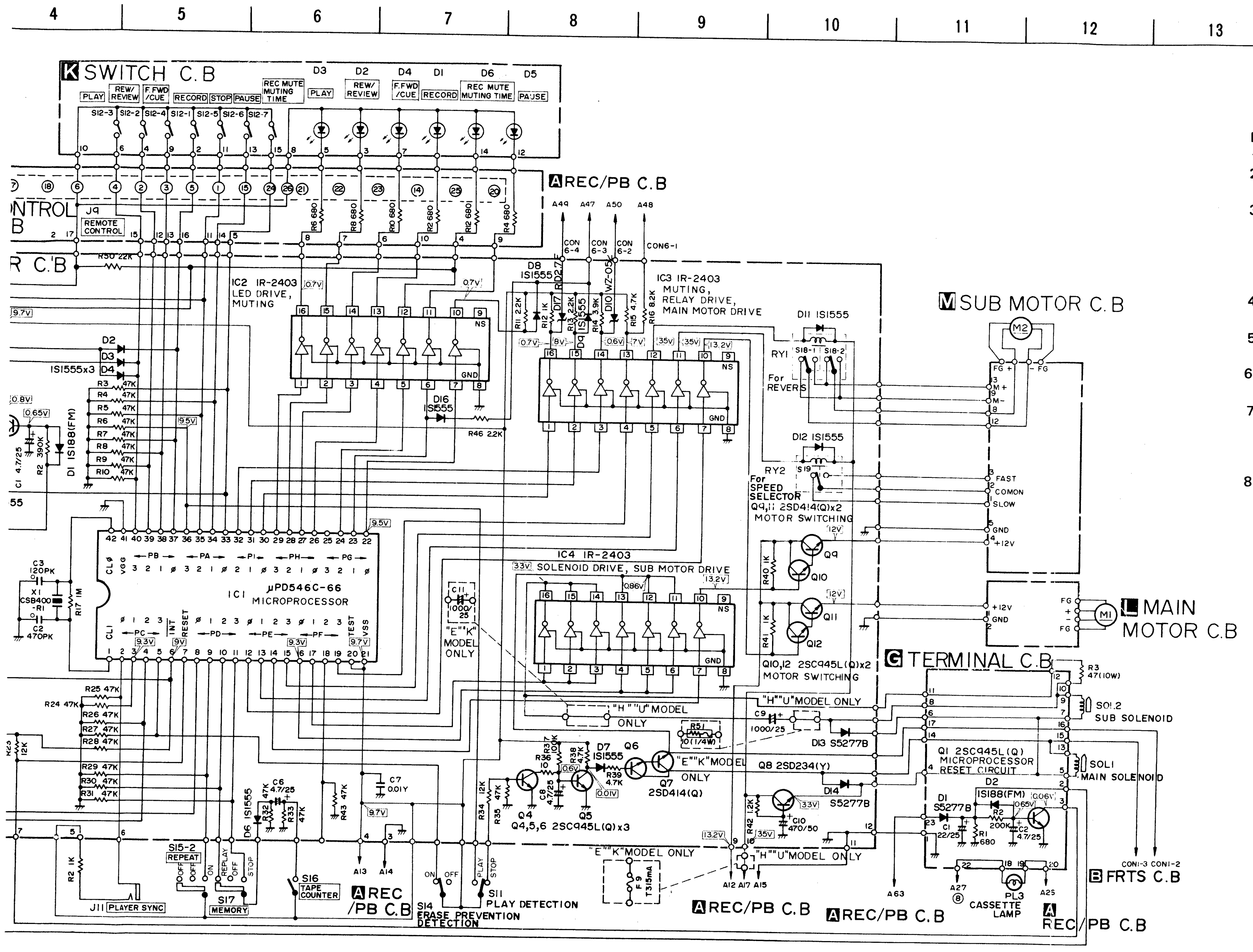
5) Capacitors with no designation* have a dielectric strength of less than 50WV.

6) The only capacitor tolerances indicated are ±2%(G), ±5%(J) and ±10%(K).

7) Ceramic capacitor symbols:
- For temperature compensation (SL)
- High dielectric constant system (YY)
- High dielectric constant system (YW, YP, YZ)

8) Explanation of symbols

Ⓜ	Mylar capacitor
Ⓐ	Aluminum solid capacitor
(PP)	Polypropylene film capacitor
(BP)	Bi-polarized capacitor
(LL)	Low-leakage capacitor
Ⓣ	Tantalum capacitor
Ⓢ	Styrol capacitor
(LN)	Low noise resistor
	Fuse resistor
(DM)	Dipped mica capacitor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K SWITCH C.B
PLAY
REW/REVIEW
F.FWD/CUE
RECORD
STOP
PAUSE
REC MUTE MUTING TIME
A REC/PB C.B
IC2 IR-2403 LED DRIVE, MUTING
IC3 IR-2403 MUTING, RELAY DRIVE, MAIN MOTOR DRIVE
M SUB MOTOR C.B
RY1 For REVERSE
RY2 For SPEED SELECTOR
Q9,11 2SD414(Q)x2 MOTOR SWITCHING
Q10,12 2SC945L(Q)x2 MOTOR SWITCHING
IC4 IR-2403 SOLENOID DRIVE, SUB MOTOR DRIVE
IC1 µPD546C-66 MICROPROCESSOR
L MAIN MOTOR C.B
G TERMINAL C.B
SOL2 SUB SOLENOID
SOL1 MAIN SOLENOID
Q1 2SC945L(Q) MICROPROCESSOR RESET CIRCUIT
Q4,5,6 2SC945L(Q)x3
Q7 2SD414(Q)
Q8 2SD234(Y)
"H""U" MODEL ONLY
"E""K" MODEL ONLY
S5-2 REPEAT
S16 TAPE COUNTER
S17 MEMORY
J11 PLAYER SYNC
S14 ERASE PREVENTION DETECTION
S11 PLAY DETECTION
PL3 CASSETTE LAMP
B FRTS C.B
A REC/PB C.B

NOTES:

1) —— B (+) power supply —— B (–) power supply

2) ➡ Signal path

➡ Rec signal path.

3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. But ( ) is with recording. An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

4) Resistors with no designation have a rated power of ¼W and a tolerance of ±5%.

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- High dielectric constant system (YW, YP, YZ)

8) Explanation of symbols

Ⓜ	Mylar capacitor
Ⓐ	Aluminum solid capacitor
(PP)	Polypropylene film capacitor
(BP)	Bi-polarized capacitor
(LL)	Low-leakage capacitor
Ⓣ	Tantalum capacitor
Ⓢ	Styrol capacitor
(LN)	Low noise resistor
	Fuse resistor
(DM)	Dipped mica capacitor

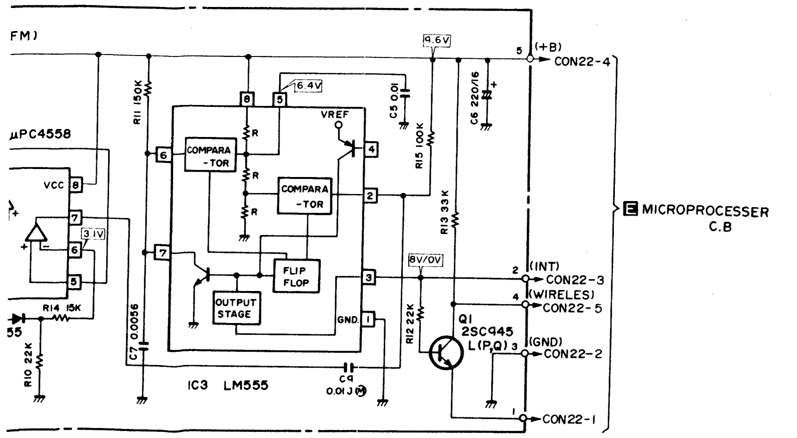
9) Switches are set to the following positions.

S1-1 ~ 4	MONITOR (SOURCE)
S2-1 ~ 4	TEST (ON)
S3-1 ~ 6	DOLBY-NR (OFF)
S4-1 ~ 6	TAPE SELECTOR-BIAS (LH)
S5-1 ~ 4	TAPE SELECTOR-EQ (LH)
S6	PEAK HOLD (OFF)
S7	PEAK (ON)
S8	VU (ON)
S9	STOP MUTING (STOP)
S10	POWER (OFF)
S11	PLAY DETECTION (STOP)
S12-1 ~ 7	LOGIC CONTROL BUTTONS
S13	CASSETTE DETECTION (ON)
S14	ERASE PREVENTION (ON)
S15	TIMER (PLAY)
S16	TAPE COUNTER
S17	MEMORY (STOP)
S18-1, 2	SUB MOTOR SELECTOR
S19	SUB MOTOR SPEED SELECTOR (SLOW)
S20-1, 2	DIN OUTPUT LEVEL (VARIABLE) (FIXED)
S21	CrO_2 AUTO (OFF)
S22	VOLTAGE SELECTOR

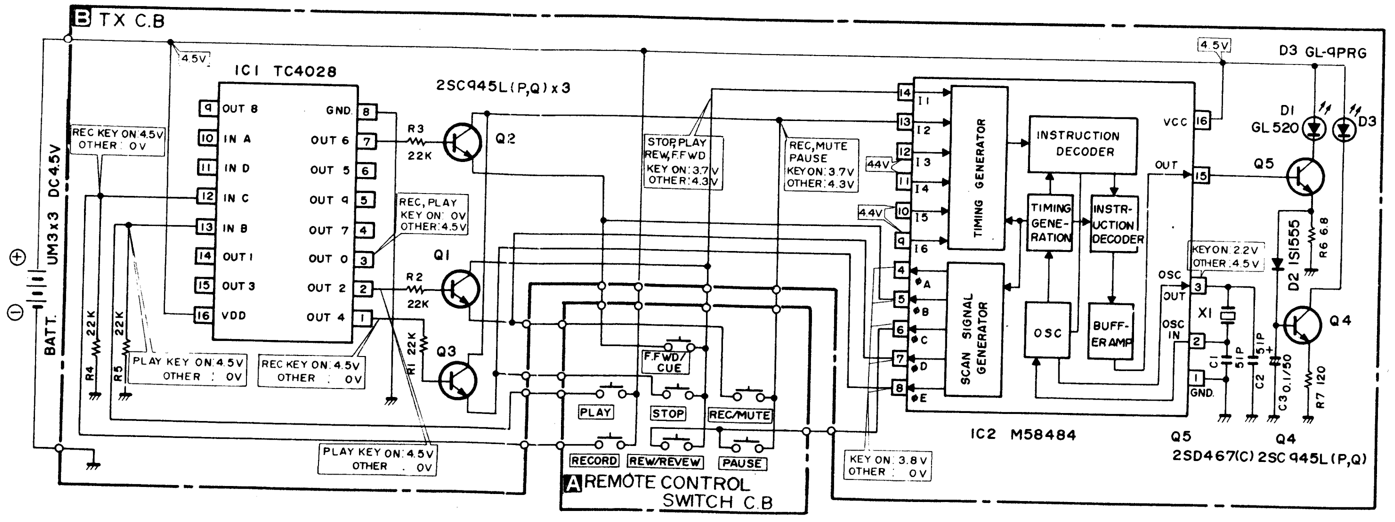
⚠ Safety component symbol

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

- This schematic diagram is subject to change without notice in the interests of improved performance.


FM)
µPC4558
COMPARA-TOR
FLIP FLOP
OUTPUT STAGE
VREF
IC3 LM555
Q1 2SC945 L(P,Q)
(+B) CON22-4
(INT) CON22-3
(WIRELESS) CON22-5
(GND) CON22-2
CON22-1
E MICROPROCESSER C.B

< REMOTE CONTROL SECTION >


B TX C.B
IC1 TC4028
2SC945L(P,Q)x3
BATT. UM3x3 DC4.5V
REC KEY ON: 4.5V OTHER: 0V
PLAY KEY ON: 4.5V OTHER: 0V
STOP,PLAY REW,F.FWD KEY ON: 3.7V OTHER: 4.3V
REC,MUTE PAUSE KEY ON: 3.7V OTHER: 4.3V
REC,PLAY KEY ON: 0V OTHER: 4.5V
INSTRUCTION DECODER
TIMING GENERATOR
TIMING GENERATION
INSTRUCTION DECODER
SCAN SIGNAL GENERATOR
OSC
BUFF-ERAMP
IC2 M58484
D1 GL520
D3 GL-9PRG
Q5 2SD467(C)
Q4 2SC945L(P,Q)
KEY ON: 2.2V OTHER: 4.5V
KEY ON: 3.8V OTHER: 0V
PLAY
STOP
REC/MUTE
F.FWD/CUE
RECORD
REW/REVIEW
PAUSE
A REMOTE CONTROL SWITCH C.B

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
4-1	82-303-285-01		Guide, Cassette R		1
4-2	82-303-347-01		Lever, Cassette pressure		1
4-3	82-303-355-01		Spring, Cassette pressure		1
4-4	82-303-348-01		Holder, Cassette pressure		1
4-5	82-303-289-01		Guide, Cassette L		1
4-6	82-303-346-01		Lever, Rec.-blocking		1
4-7	82-303-354-01		Spring, Rec.-blocking		1
4-8	82-303-350-01		Holder, Rec.-blocking		1
4-9	82-303-286-01		Lever, Brake		1
4-10	82-304-286-01		Flange collar B	AD-6900	2
4-11	82-304-238-01		Slide lever, Cassette pressure	AD-6900	1
4-12	82-481-311-01		Spring, Plunger		1
4-13	82-304-233-01		Holder, Plunger	AD-6900	1
4-14	82-304-244-01		Shaft, Play lever	AD-6900	1
4-15	82-304-248-01		Spring, Plunger	AD-6900	1
4-16	82-304-232-01		Lever, PLAY	AD-6900	1
4-17	82-304-243-01		Shaft B, Plunger	AD-6900	1
4-18	82-304-234-01		Slide plate, PLAY	AD-6900	1
4-19	82-304-249-01		Spring, Actuating	AD-6900	1
4-20	82-304-242-01		Shaft A, Plunger	AD-6900	1
4-21	82-304-283-01		Cushion, Plunger	AD-6900	1
4-22	82-304-307-01		Screw, Plunger	AD-6900	2
4-23	82-303-300-01		FR motor pulley		1
4-24	87-085-135-01		Bushing 3-4-5		3
4-25	87-087-029-01		Rubber cushion		3
4-26	82-303-340-01		Shaft bearing ass'y		1
4-27	82-304-701-01		Spacer, Insulation	AD-6900	1
4-28	82-303-259-01		Holder, Motor circuit board		1
4-29	82-304-260-01		Guide, Lock plate	AD-6900	1
4-30	82-303-233-01		Mechanism chassis sub ass'y		1
4-31	82-303-360-01		Supply reel platform ass'y		1
4-32	82-303-358-01		Shaft bearing ass'y		1
4-33	82-303-322-01		Spring, FR idler		1
4-34	82-303-271-01		FR idler pulley ass'y		1
4-35	82-303-335-01		Felt 6.4-14		1
4-36	82-303-353-01		Spring, FR lever		1
4-37	82-303-277-01		FR lever ass'y		1
4-38	82-303-292-01		FR eject lever		1
4-39	82-304-247-01		Rubber belt, Counter	AD-6900	1
4-40	82-392-352-01		Cap, Take-up reel platform	AD-6550	1
4-41	82-303-249-01		Take-up reel platform ass'y		1
4-42	82-303-309-01		Rubber, Main drive		1
4-43	82-303-330-01		Slip pulley ass'y		1
4-44	82-303-385-01		Rubber belt B, FR		1
4-45	82-439-426-01		Brake shoe A		2
4-46	82-303-318-01		Spring, Brake		1
4-47	82-303-297-01		Slide plate, Brake		1
4-48	87-038-039-01		Wire binder		1
4-49	82-303-314-01		Nut 2.6		2
4-50	82-303-291-01		Plate, Flywheel		1
4-51	82-385-311-01		Screw for thrust	AD-6300	1
4-52	82-303-246-01		Flywheel ass'y		1
4-53	82-303-310-01		Rubber belt, Flywheel		1
4-54	82-303-224-01		Spring, Flywheel		1
4-55	82-392-256-01		Shaft bearing ass'y	AD-6550	1
4-56	82-304-251-01		Spring, Lock lever	AD-6900	1
4-57	82-304-221-01		Lock lever ass'y	AD-6900	1
4-58	82-397-354-01		Drum wheel C ass'y	AD-6550	1
4-59	82-304-312-01		Idler oil E ass'y	AD-6900	1
4-60	82-304-250-01		Spring, Oil	AD-6900	1
4-61	82-303-349-01		Lever, CrO_2		1
4-62	82-303-351-01		Holder, CrO_2		1
4-63	82-303-356-01		T spring, CrO_2		1

ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1a	82-153-857-01		Printed indiv., Packing (H,E,K model only)	*	1
1b	82-153-853-01		Printed indiv., Packing (U model only)	*	1
2	82-304-852-11		Cushion L, Printed indiv.	AD-6900	1
3	82-304-853-11		Cushion R, Printed indiv.	AD-6900	1
4	82-307-858-01		Sub cushion, Rear	AD-6700	2
5a	87-051-131-11		Poly-vinyl sack (for AC power cord) (H model only)		1
5b	87-051-135-11		Poly-vinyl sack (for AC power cord) (U,E,K model only)		1
6	87-056-564-01		Curl stopper		2
7	87-056-607-01		Poly-vinyl sack (for case)		1
8a	82-153-904-01		Instructions booklet (H model only)	*	1
8b	82-153-907-01		Instructions booklet (U model only)	*	1
8c	82-153-905-01		Instructions booklet (E model only)	*	1
8d	82-153-906-01		Instructions booklet (K model only)	*	1
9	87-051-132-01		Poly-vinyl sack		1
10	87-051-175-01		Poly-tuve A (for instruction)		1
11	87-056-008-11		Label, AC power cord (K model only)		1
12	87-056-009-41		Distributors list		1
13	87-056-014-01		Tag, Main voltage (K model only)		1
14	87-056-034-01		Service station list (U model only)		1
15	87-056-035-01		Card, Limited warranty (U model only)		1
16	87-056-036-01		Guarantee card (U model only)		1
17	87-056-042-01		Label, Metal POP		1
18	82-304-951-01		Driber	AD-6900	1
19	86-121-100-01		Remote control unit, RC-100		1
20a	86-944-012-01		Connection cord, CW-129BSK (H,U,K model only)		2
20b	86-925-015-01		Connection cord, CW-115BSK (E model only)		1
21	87-032-845-01		Siemens plug (H model only)		1
22	87-047-063-01		Battery, SUM-3AE		3
23	87-058-023-01		Cord binder		1
24	87-058-024-01		Head cleaning pole ass'y		1

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